Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Volume 1
Indicator Development

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Provincial
Health Council

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A Life Cycle Approach

Chapter 1
Introduction

Provincial Health Council
Strategic Planning for 2001 - 2003

The Determinants of Health as a Framework for Proceeding

The Health Council Act (1990) outlines the duties of the Provincial Health Council as follows:

> to advise the Governor in Council, through the Minister, in the development of a comprehensive health policy, comprising health goals and objectives and in setting the overall direction of the health care system in the Province.

A comprehensive health policy would provide a structure for the government to use to keep the health of Nova Scotians firmly placed in the forefront during any governmental decision making. The foundation of a comprehensive health policy would be healthy public policy.

Creation of healthy public policy is a strategy aimed at improving the health of the public. Population health describes an approach to improving health that focuses on the health of communities or populations rather than individuals. It examines the factors that enhance the health and well being of the entire population.

Using the World Health Organisation's definition, we view health a resource for daily living. The population health approach focuses on positively influencing conditions that allow and enable people to make healthy choices, and on services that promote and maintain health.

During the public consultations of January and February 2000, Nova Scotians told us that they knew how to be healthy, we needed to give them the tools and support and allow them to make the right choices. Nova Scotians also indicated an acute awareness of the forces that influence the health status of a population, and especially Nova Scotia's population.

These forces are well researched and appear in the literature as the Determinants of Health. The determinants address broad categories of forces that affect the health of a population and as such are an appropriate framework to use when thinking about population health and healthy public policy. The Provincial Health Council is therefore accepting the determinants of health as a reasonable framework to use for proceeding with its plans for the next 3 years.

For purposes of discussion and formulation of advice to the governor in council, the Provincial Health Council accepts the following as determinants of health: income and social status; education; healthy child development; the physical environment; the provision of health services; social support networks; personal health practices and coping skills; employment and working conditions; social environments; culture; gender; and biology and genetic endowment.

It is the considered opinion of the Provincial Health Council that this framework is flexible enough and broad enough to encompass almost any specific issue raised by the public, the government, or the council members themselves. It will also aid the council to focus on the ultimate aim of any of the council's activities - the creation of advice to the governor in council regarding comprehensive health policy.

The Health Council Act lists activities the council may carry out in order to fulfill its duties. These activities are as follows:

(a) invite community organizations, health care providers, consumers and individual members of the general public to provide advice on health issues under review by the Council through methods including public symposia, hearings and distribution of briefs and discussion papers;
(b) provide to the Governor in Council a balanced and informed view of the health care system;
(c) review particular issues referred to the Council by the Governor in Council, through the Minister, and advise the Governor in Council on those issues;
(d) increase public awareness and knowledge of health issues, including population health status, the cost of the health care system and personal responsibility to improve health;
(e) enhance the awareness of Government of emerging health issues from the public viewpoint.

Again, the council considers that using the determinants of health as a working framework is compatible with the activities outlined above and will provide a population based focus for discussion and advice.

The Social Determinants of Health

The following is adapted from Health Canada's determinants of health framework, which is part of their population health approach. More information can be found by visiting Health Canada's website at <http://www.hc-sc.gc.ca/hppb/phdd/ >.

KEY DETERMINANT -- 1. Income and Social Status

UNDERLYING PREMISES & EVIDENCE

Health status improves at each step up the income and social hierarchy. High income determines living conditions such as safe housing and ability to buy sufficient good food. The healthiest populations are those in societies which are prosperous and have an equitable distribution of wealth.

Why are higher income and social status associated with better health? If it were just a matter of the poorest and lowest status groups having poor health, the explanation could be things like poor living conditions. But the effect occurs all across the socio-economic spectrum. Considerable research indicates that the degree of control people have over life circumstances, especially stressful situations, and their discretion to act are the key influences. Higher income and status generally results in more control and discretion. And the biological pathways for how this could happen are becoming better understood. A number of recent studies show that limited options and poor coping skills for dealing with stress increase vulnerability to a range of diseases through pathways that involve the immune and hormonal systems.

There is strong and growing evidence that higher social and economic status is associated with better health. In fact, these two factors seem to be the most important determinants of health.

Evidence from the **Second Report on the Health of Canadians**

- Only 47% of Canadians in the lowest income bracket rate their health as very good or excellent, compared with 73% of Canadians in the highest income group.
- Low-income Canadians are more likely to die earlier and to suffer more illnesses than Canadians with higher incomes, regardless of age, sex, race and place of residence.
- At each rung up the income ladder, Canadians have less sickness, longer life expectancies and improved health.
- Studies suggest that the distribution of income in a given society may be a more important determinant of health than the total amount of income earned by society members. Large gaps in income distribution lead to increases in social problems and poorer health among the population as a whole.

Evidence from **Investing in the Health of Canadians:**

Social status is also linked to health. A major British study of civil service employees found that, for most major categories of disease (cancer, coronary heart disease, stroke, etc.), health increased with job rank. This was true even when risk factors such as smoking, which are known to vary with social class, were taken into account. All the people in the study worked in desk jobs, and all had a good standard of living and job security, so this was not an effect that could be explained by physical risk, poverty or material deprivation. Health increased at each step up the job hierarchy. For example, those one step down from the top (doctors, lawyers, etc.) had heart disease rates four times higher than those at the top (those at levels comparable to deputy ministers). So we must conclude that something related to higher income, social position and hierarchy provides a buffer or defence against disease, or that something about lower income and status undermines defences.

KEY DETERMINANT -- 2. Social Support Networks

UNDERLYING PREMISES & EVIDENCE

Support from families, friends and communities is associated with better health. Such social support networks could be very important in helping people solve problems and deal with adversity, as well as in maintaining a sense of mastery and control over life circumstances. The caring and respect that occurs in social relationships, and the resulting sense of satisfaction and well-being, seem to act as a buffer against health problems.

In the 1996-97 National Population Health Survey (NPHS), more than four out of five Canadians reported that they had someone to confide in, someone they could count on in a crisis, someone they could count on for advice and someone who makes them feel loved and cared for. Similarly, in the 1994 95 National Longitudinal Survey of Children and Youth, children aged 10 and 11 reported a strong tendency toward positive social behaviour and caring for others.

Evidence from **Investing in the Health of Canadians**:

- Some experts in the field have concluded that the health effect of social relationships may be as important as established risk factors such as smoking, physical activity, obesity and high blood pressure.

- An extensive study in California found that, for men and women, the more social contacts people have, the lower their premature death rates.

- Another U.S. study found that low availability of emotional support and low social participation were associated with all-cause mortality.

- The risk of angina pectoris decreased with increasing levels of emotional support in a study of male Israeli civil servants.

KEY DETERMINANT -- 3. Education

UNDERLYING PREMISES & EVIDENCE

Health status improves with level of education.

Education is closely tied to socioeconomic status, and effective education for children and lifelong learning for adults are key contributors to health and prosperity for individuals, and for the country. Education contributes to health and prosperity by equipping people with knowledge and skills for problem solving, and helps provide a sense of control and mastery over life circumstances. It increases opportunities for job and income security, and job satisfaction. And it improves people's ability to access and understand information to help keep them healthy.

Evidence from the **Second Report on the Health of Canadians**:

- Canadians with low literacy skills are more likely to be unemployed and poor, to suffer poorer health and to die earlier than Canadians with high levels of literacy

- People with higher levels of education have better access to healthy physical environments and are better able to prepare their children for school than people with low levels of education. They also tend to smoke less, to be more physically active and to have access to healthier foods.

- In the 1996-97 National Population Health Survey (NPHS), only 19% of respondents with less than a high school education rated their health as "excellent" compared with 30% of university graduates.

Evidence from **Investing in the Health of Canadians**:

- The 1990 Canada Health Promotion Survey found the number of lost workdays decreases with increasing education. People with elementary schooling lose seven work days per year due to illness, injury or disability, while those with university education lose fewer than four days per year.

KEY DETERMINANT -- 4. Employment / Working Conditions

UNDERLYING PREMISES & EVIDENCE

Unemployment, underemployment, stressful or unsafe work are associated with poorer health. People who have more control over their work circumstances and fewer stress related demands of the job are healthier and often live longer than those in more stressful or riskier work and activities.

Evidence from the **Second Report on the Health of Canadians**:

- Employment has a significant effect on a person's physical, mental and social health. Paid work provides not only money, but also a sense of identity and purpose, social contacts and opportunities for personal growth. When a person loses these benefits, the results can be devastating to both the health of the individual and his or her family. Unemployed people have a reduced life expectancy and suffer significantly more health problems than people who have a job.

- Conditions at work (both physical and psychosocial) can have a profound effect on people's health and emotional well-being.

- Participation in the wage economy, however, is only part of the picture. Many Canadians (especially women) spend almost as many hours engaged in unpaid work, such as doing housework and caring for children or older relatives. When these two workloads are combined on an ongoing basis and little or no support is offered, an individual's level of stress and job satisfaction is bound to suffer. Between 1991 and 1995, the proportion of Canadian workers who were "very satisfied" with their work declined, and was more pronounced among female workers, dropping from 58% to 49%. Reported levels of work stress followed the same pattern. In the 1996 97 NPHS, more women reported high work stress levels than men in every age category. Women aged 20 to 24 were almost three times as likely to report high work stress than the average Canadian worker.

Evidence from **Investing in the Health of Canadians**:

A major review done for the World Health Organization found that high levels of unemployment and economic instability in a society cause significant mental health problems and adverse effects on the physical health of unemployed individuals, their families and their communities.

KEY DETERMINANT -- 5. Social Environments

UNDERLYING PREMISES & EVIDENCE

The importance of social support also extends to the broader community. Civic vitality refers to the strength of social networks within a community, region, province or country. It is reflected in the institutions, organizations and informal giving practices that people create to share resources and build attachments with others.

The array of values and norms of a society influence in varying ways the health and well being of individuals and populations.

In addition, social stability, recognition of diversity, safety, good working relationships, and cohesive communities provide a supportive society that reduces or avoids many potential risks to good health.

A healthy lifestyle can be thought of as a broad description of people's behaviour in three inter-related dimensions: individuals; individuals within their social environments (eg. family, peers, community, workplace); the relation between individuals and their social environment. Interventions to improve health through lifestyle choices can use comprehensive approaches that address health as a social or community (ie. shared) issue.

Social or community responses can add resources to an individual's repertoire of strategies to cope with changes and foster health.

In 1996-97:

- Thirty-one percent of adult Canadians reported volunteering with not-for-profit organizations in 1996-97, a 40% increase in the number of volunteers since 1987.

- One in two Canadians reported being involved in a community organization.
- Eighty-eight percent of Canadians made donations, either financial or in-kind, to charitable and not-for-profit organizations.

Evidence from the **Second Report on the Health of Canadians**

- In the U.S., high levels of trust and group membership were found to be associated with reduced mortality rates.

- Family violence has a devastating effect on the health of women and children in both the short and long term. In 1996, family members were accused in 24% of all assaults against children; among very young children, the proportion was much higher.

- Women who are assaulted often suffer severe physical and psychological health problems; some are even killed. In 1997, 80% of victims of spousal homicide were women, and another 19 women were killed by a boyfriend or ex-boyfriend.

- Since peaking in 1991, the national crime rate declined 19% by 1997. However, this national rate is still more than double what it was three decades ago.

KEY DETERMINANT -- 6. Physical Environments

UNDERLYING PREMISES & EVIDENCE

The physical environment is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects, including cancer, birth defects, respiratory illness and gastrointestinal ailments.

In the built environment, factors related to housing, indoor air quality, and the design of communities and transportation systems can significantly influence our physical and psychological well-being.

Evidence from the **Second Report on the Health of Canadians**

- The prevalence of childhood asthma, a respiratory disease that is highly sensitive to airborne contaminants, has increased sharply over the last two decades, especially among the age group 0 to 5. It was estimated that some 13% of boys and 11% of girls aged 0 to 19 (more than 890,000 children and young people) suffered from asthma in 1996 97.

- Children and outdoor workers may be especially vulnerable to the health effects of a reduced ozone layer. Excessive exposure to UV-B radiation can cause sunburn, skin cancer, depression of the immune system and an increased risk of developing cataracts

Evidence from **Investing in the Health of Canadians**:

- Air pollution, including exposure to second hand tobacco smoke, has a significant association with health. A study in southern Ontario found a consistent link between hospital admissions for respiratory illness in the summer months and levels of sulphates and ozone in the air. However, it now seems that the risk from small particles such as dust and carbon particles that are by-products of burning fuel may be even greater than the risks from pollutants such as ozone. As well, research indicates that lung cancer risks from second hand tobacco smoke are greater than the risks from the hazardous air pollutants from all regulated industrial emissions combined.

KEY DETERMINANT -- 7. Personal Health Practices and Coping Skills

UNDERLYING PREMISES & EVIDENCE

Personal Health Practices and Coping Skills refer to those actions by which individuals can prevent diseases and promote self-care, cope with challenges, and develop self-reliance, solve problems and make choices that enhance health.

Definitions of lifestyle include not only individual choices, but also the influence of social, economic, and environmental factors on the decisions people make about their health. There is a growing recognition that personal life "choices" are greatly influenced by the socioeconomic environments in which people live, learn, work and play.

These influences impact lifestyle choice through at least five areas: personal life skills, stress, culture, social relationships and belonging, and a sense of control. Interventions that support the creation of suportive environments will enhance the capacity of individuals to make healthy lifestyle choices in a world where many choices are possible.

Through research in areas such as heart disease and disadvantaged childhood, there is more evidence that powerful biochemical and physiological pathways link the individual socio-economic experience to vascular conditions and other adverse health events.

However, there is a growing recognition that personal life "choices" are greatly influenced by the socioeconomic environments in which people live, learn, work and play. Through research in areas such as heart disease and disadvantaged childhood, there is more evidence that powerful biochemical and physiological pathways link the individual socio-economic experience to vascular conditions and other adverse health events.

Evidence from the **Second Report on the Health of Canadians**

In Canada, smoking is estimated to be responsible for at least one-quarter of all deaths for adults between the ages of 35 and 84. Rates of smoking have increased substantially among adolescents and youth, particularly among young women, over the past five years and smoking rates among Aboriginal people are double the overall rate for Canada as a whole.

Multiple risk-taking behaviours, including such hazardous combinations as alcohol, drug use and driving, and alcohol, drug use and unsafe sex, remain particularly high among young people, especially young men.

Diet in general and the consumption of fat in particular are linked to some of the major causes of death, including cancer and coronary heart disease. The proportion of overweight men and women in Canada increased steadily between 1985 and 1996 97 from 22% to 34% among men and from 14% to 23% among women.

Evidence from **Investing in the Health of Canadians**:

- Coping skills, which seem to be acquired primarily in the first few years of life, are also important in supporting healthy lifestyles. These are the skills people use to interact effectively with the world around them, to deal with the events, challenges and stress they encounter in their day to day lives. Effective coping skills enable people to be self-reliant, solve problems and make informed choices that enhance health. These skills help people face life's challenges in positive ways, without recourse to risky behaviours such as alcohol or drug abuse. Research tells us that people with a strong sense of their own effectiveness and ability to cope with circumstances in their lives are likely to be most successful in adopting and sustaining healthy behaviours and lifestyles.

KEY DETERMINANT -- 8. Healthy Child Development

UNDERLYING PREMISES & EVIDENCE

New evidence on the effects of early experiences on brain development, school readiness and health in later life has sparked a growing consensus about early child development as a powerful determinant of health in its own right. At the same time, we have been learning more about how all of the other determinants of health affect the physical, social, mental, emotional and spiritual development of children and youth. For example, a young person's development is greatly affected by his or her housing and neighbourhood, family income and level of parents' education, access to nutritious foods and physical recreation, genetic makeup and access to dental and medical care.

Evidence from the **Second Report on the Health of Canadians**

- Experiences from conception to age six have the most important influence of any time in the life cycle on the connecting and sculpting of the brain's neurons. Positive stimulation early in life improves learning, behaviour and health into adulthood.

- Tobacco and alcohol use during pregnancy can lead to poor birth outcomes. In the 1996-97 National Population Health Survey, about 36% of new mothers who were former or current smokers smoked during their last pregnancy (about 146,000 women). The vast majority of women reported that they did not drink alcohol during their pregnancy.

- A loving, secure attachment between parents/caregivers and babies in the first 18 months of life helps children to develop trust, self-esteem, emotional control and the ability to have positive relationships with others in later life.

- Infants and children who are neglected or abused are at higher risk for injuries, a number of behavioural, social and cognitive problems later in life, and death.

Evidence from **Investing in the Health of Canadians**:

A low weight at birth links with problems not just during childhood, but also in adulthood. Research shows a strong relationship between income level of the mother and the baby's birth weight. The effect occurs not just for the most economically disadvantaged group. Mothers at each step up the income scale have babies with higher birth weights, on average, than those on the step below. This tells us the problems are not just a result of poor maternal nutrition and poor health practices associated with poverty, although the most serious problems occur in the lowest income group. It seems that factors such as coping skills and sense of control and mastery over life circumstances also come into play.

KEY DETERMINANT -- 9. Biology and Genetic Endowment.

UNDERLYING PREMISES & EVIDENCE

The basic biology and organic make-up of the human body are a fundamental determinant of health. Genetic endowment provides an inherited predisposition to a wide range of individual responses that affect health status. Although socio-economic and environmental factors are important determinants of overall health, in some circumstances genetic endowment appears to predispose certain individuals to particular diseases or health problems.

Evidence from the **Second Report on the Health of Canadians**

- Studies in neurobiology have confirmed that when optimal conditions for a child's development are provided in the investment phase (between conception and age 5), the brain develops in a way that has positive outcomes for a lifetime.

- Aging is not synonymous with poor health. Active living and the provision of opportunities for lifelong learning may be particularly important for maintaining health and cognitive capacity in old age. And studies on education level and dementia suggest that exposure to education and lifelong learning may create reserve capacity in the brain that compensates for cognitive losses that occur with biological aging.

KEY DETERMINANT -- 10. Health Services

UNDERLYING PREMISES & EVIDENCE

Health services, particularly those designed to maintain and promote health, to prevent disease, and to restore health and function contribute to population health. The health services continuum of care includes treatment and secondary prevention

Evidence from the **Second Report on the Health of Canadians**

- Disease and injury prevention activities in areas such as immunization and the use of mammography are showing positive results. These activities must continue if progress is to be maintained.
- There has been a substantial decline in the average length of stay in hospital. Shifting care into the community and the home raises concerns about the increased financial, physical and emotional burdens placed on families, especially women. The demand for home care has increased in several jurisdictions, and there is a concern about equitable access to these services.
- Access to universally insured care remains largely unrelated to income; however, many low- and moderate-income Canadians have limited or no access to health services such as eye care, dentistry, mental health counseling and prescription drugs.

KEY DETERMINANT -- 11. Gender

UNDERLYING PREMISES & EVIDENCE

Gender refers to the array of society-determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis. "Gendered" norms influence the health system's practices and priorities. Many health issues are a function of gender-based social status or roles.

Evidence from the **Second Report on the Health of Canadians**

- Men are more likely to die prematurely than women, largely as a result of heart disease, fatal unintentional injuries, cancer and suicide. Rates of potential years of life lost before age 70 are almost twice as high for men than women and approximately three times as high among men aged 20 to 34.
- While women live longer than men, they are more likely to suffer depression, stress overload (often due to efforts to balance work and family life), chronic conditions such as arthritis and allergies, and injuries and death resulting from family violence.
- While overall cancer death rates for men have declined, they have remained persistently stubborn among women, mainly due to increases in lung cancer mortality. Teenage girls are now more likely than adolescent boys to smoke. If increased rates of smoking among young women are not reversed, lung cancer rates among women will continue to climb.

KEY DETERMINANT -- 12. Culture

UNDERLYING PREMISES & EVIDENCE

Some persons or groups may face additional health risks due to a socio-economic environment, which is largely determined by dominant cultural values that contribute to the perpetuation of conditions such as marginalization, stigmatization, loss or devaluation of language and culture and lack of access to culturally appropriate health care and services.

Evidence from the **Second Report on the Health of Canadians**

1. Despite major improvements since 1979, infant mortality rates among First Nations people in 1994 were still twice as high as among the Canadian population as a whole and the prevalence of major chronic diseases, including diabetes, heart problems, cancer hypertension and arthritis/rheumatism, is significantly higher in Aboriginal communities and appears to be increasing.

2. In a comparison of ethnic groups, the highest rate of suicide occurred among the Inuit, at 70 per 100,000, compared with 29 per 100,000 for the Dene and 15 per 100,000 for all other ethnic groups, comprised primarily of non-Aboriginal persons.

3. The 1996-97 National Longitudinal Survey of Children and Youth found that many immigrant and refugee children were doing better emotionally and academically than their Canadian born peers, even though far more of the former lived in low-income households. The study suggests that "poverty among the Canadian-born population may have a different meaning than it has for newly arrived immigrants. The immigrant context of hope for a brighter future lessens poverty's blows; the hopelessness of majority-culture poverty accentuates its potency."

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Health Council

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Chapter 2
Income & Social Status

1.0 Introduction

It is widely recognized that the income and social status -- sometimes referred to as socio-economic status (SES) -- of individuals, families, communities, and countries is the single greatest determinant of health. While the terms *income* and *social status* are used in common language there are distinct meanings for each of these terms and these will be explored further in this report.

The mandate of the Income and Social Status Committee was to identify 10 to 12 indicators that will eventually form part of the Report Card on the health of Nova Scotians. Because income and social status are central to the social determinants model of health and because there is a plethora of indicators related to income and very few measurable indicators for "social status" the Committee was faced with a significant challenge. Income related statistics are easily identified and accessed because the predominant structure in Western Society is centered on an economic and financial model. If you receive money or if money changes hands through some form of transaction then it is likely that this information is captured in the form of a statistic. The same can not be said of social status -- valid and reliable indicators are not easily identified.

There is evidence that membership in a group based on race, ethnicity, culture, sexual orientation, abilities or disabilities, employment status or social position does have an impact on the health of individuals and their families. The interrelationship between social status and health is not clearly understood and there is the added problem of measuring and quantifying this phenomenon.

In the final analysis it is clear that there exists a strong relationship between income and social status and the health of populations. This is well documented in both the academic and social policy literature. In keeping with the objectives of the Report Card project it is imperative that social and health policy initiatives be informed by the following:

1. The strong correlation among income and social status and the health of populations;
2. That in order to demonstrate the full dimension of this correlation there is a need to present both quantitative and qualitative information.
3. To make this information meaningful to both the public and policy-makers there is a need to present the information in ways that are easily understood and relevant to Nova Scotians.

2.0 Membership

The following individuals served as members of the Income and Social Status Committee either as volunteers or as representatives of their organizations:

Quenta Tynes (Chair) - Board Member, Provincial Health Council
Mike Chisholm, Tax Policy Division, Department of Finance
Harry Churchill - Board Member, Provincial Health Council

John Dow, Executive Director, Provincial Health Council
Vivian Farrell, Board Member and Chair of Provincial Health Council.
Margaret Johnson, Community Volunteer
Dr. George Kephart, Population Health Research Unit, Dalhousie University
Dennis Pilkey, Department of Finance
Diane Swinamer, Community Volunteer, (Metro Food Bank)
Victor Maddalena, Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix One - Key Determinants of Health*) and it was through this initiative that the Income and Social Status Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. The Terms of Reference of the Income and Social Status Committee are described in *Appendix Two - Terms of Reference Income and Social Status Committee.*

Specifically the objectives of the Income and Social Status Committee were to:

1. Develop and recommend indicators related to income and social status that could be incorporated into a Report Card to the public on health issues in Nova Scotia. These indicators (approx. 10 key indicators) should be "user friendly" so they can be understood and interpreted by the public, the media and politicians. The purpose of identifying these indicators is to serve as an education tool for communities interested in encouraging change in social and economic policy. For the purposes of this Report, the Committee decided that some indicators could have more than one measure, or statistic to describe the indicator; and,

Advise government on the benefits of developing public policy that promotes social justice, equality, and promotes social capital. For example the government should be aware of the impact income, taxation, transportation, housing, and other social policy initiatives have on the health of the public, both positive and negative. It is recognized that healthy public policy can also be good for the economy and for the social well-being of the public.

In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive change to policies that impact on income and social status.

4.0 Framework for Developing Indicators

The Income and Social Status Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review the scientific, academic, economic and social literature and other national and provincial reports for health indicators related to the income and social status. In addition there was consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See *Appendix Three – Criteria for Selection of Indicators*);
3. Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, source, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible income and social status indicators that are currently available.

5.0 Definition of "Income and Social Status"

When one refers to the term "income" it is generally understood to be the amount of money that comes into a household in the form of a weekly or monthly pay cheque. Adequate income permits the purchasing of food, shelter, clothing, health care, recreation activities and other amenities of life. When income is not adequate to meet the needs of daily life the health of that individual or family may be compromised. Research also indicates that income levels alone do not explain the differences in health status. There are other benefits associated with earning income including self-esteem and autonomous decision-making, social connection and a sense of belonging, and making a contribution to the community. In Western society social worth is often measured in financial terms. Taxation is a prominent feature of democratic society that not only collects revenue for social programs, but taxation policy also reflects and defines social and economic policy.

Similarly, the term "social status" generally refers to one's social position or standing in a community and this is determined by various factors such as income level, gender, race, sexual orientation, ethnicity, or such factors as type of employment, abilities or disabilities, or membership in a particular group. These factors can have an impact on health either directly by improving or reducing one's ability to meaningfully participate in the benefits of society or indirectly, for example by improving employment opportunities.

Social status reflects a position in a social structure and is usually ranked according to power and prestige. Social status differs from the concept of social class in that it is a measure of a person's social standing or social honour in a community. Individuals who share the same social class may have very divergent status. For example, ethnic origin, gender and age as well as their level of recognition in the community affect people's social status. While social status is statistically related to social class it is common for individuals to have inconsistent class and status locations. Most people use both the concepts of class and status to describe the systems of social stratification (the way individuals are ranked in various hierarchies of income, wealth, authority and power) found in societies.

Social status and social class are related but different terms. Social class usually implies a group of individuals sharing a common situation within a social structure, usually their shared place in the structure of ownership and control of the means of production, for example the working class, or a bourgeois class -- those who own and control the means of production. Social class can also refer to groups of individuals with a shared characteristic relevant in some socio-economic measurement or ranking (for example all individuals earning over $50,000 a year). This is one of the few ways by which social class can be statistically defined. While social class is extensively used in discussing social structure, popular literature tend to rely on the term social status, which offers a more complex portrait in which individuals within a class can be seen as having quite different social situations.

6.0 Recommended Indicators

The Committee divided the indicators into three general groupings: Wealth and Income, Cost of Living and Taxation.

6.1 Wealth and Income

As stated in the introduction, wealth and income are the most significant of all the determinants of health. Simply stated, it is likely that if you are wealthy you will have better health than if you are poor. Moreover, it has been shown that income inequality --the gap between the rich and the poor -- is a significant indicator of the relative health of populations. In countries where the income gap is narrow relative health is better than in countries where the gap between the rich is poor is more significant.

In common language we refer to "poverty" without really understanding that poverty is a relative term and defining it can be dependent on a number of factors. For example an income sufficient to support a family of four living in a rural area in Nova Scotia may not be sufficient to support the same family in urban Vancouver. As a result there is a need to interpret statistics related to income and poverty with a degree of caution.

It is worthwhile noting that it was challenging for the Committee to reduce this complex phenomenon to a few indicators. As a result the Committee identified key areas of concern including, income, income support, distribution of wealth, employment rate and employment security. In each of these areas indicators were identified that provide either a direct measure of the category of concern or provide a reasonable proxy measure.

Income and Income Support

Definition Income by source of Revenue by Age and Gender

Source Nova Scotia Department of Finance; Statistics Canada, Income Trends in Canada and User's Guide. This user's guide provides a detailed description of a new CD-ROM *Income Trends in Canada* (13F0022XCB). It also provides a glossary, a description of the major concepts as well as an overview of the data source, the Survey of Labour and Income Dynamics (SLID). *Income Trends in Canada* (1980-1998) contains 45 cross-classified income tables, covering the period 1980 to 1998. Most tables include estimates for Canada, the 10 provinces and 15 census metropolitan areas (CMAs). Major topics included in the tables are income distributions and inequality, earnings of men and women, income tax, government transfers, low income and sources of income.

Rationale There is evidence that a person's income is probably the single greatest determinant of their health. [1] [2] Throughout the life cycle there is a strong relationship between income levels and health. The relationship is a continuous but nonlinear gradient with large improvements in health associated with a rise in income at the lower levels of income and smaller health improvements in health associated with incremental increases at higher levels of income.[3] This is a particularly important indicator when examining the impact of income on children and people of different ages and gender.

Limitations This measure is specifically intended to measure income and income support by source. This indicator does not provide information regarding unpaid employment that would encompass the labor provided by, for example homemakers, or unpaid caregivers in the home. Measuring income as a sole measure of the value of an individual has been criticized by some economists and social policy analysts as presenting only a partial view of the value of individual labour. This has been a criticism of some economists who believe that the value of individuals in society is based on a monetary measure.

4.1.1 Distribution of Wealth

Definition Assets and debts by gender, age and households.

Source Nova Scotia Department of Finance; and Statistics Canada: *The Assets and Debts of Canadians: An Overview of the Results of the Survey of Financial Security, Cat. No.:13-595-XIE.*

Rationale A family's net worth can be thought of as the amount of money they would be left with if they sold all their assets and paid off all their debts. Total assets including financial and non-financial assets and equity minus total debts including mortgages, credit card debts, money owing on loans and other debts equals net worth. Total net worth is a more appropriate measure of the true distribution of wealth in society.

Limitations While there are no specific limitations regarding available statistics there is a need to interpret this data with caution. There is a qualitative aspect of interpretation that must be included with the presentation of this information.

4.1.2 Employment Rate

Definition Full time employment as a percentage of the population by age and gender.

Source Nova Scotia Department of Finance

Rationale The most common presentation of employment statistics is the unemployment rate. There are problems however with viewing employment statistics only from the perspective of those who are unemployed. Standard presentation of unemployment statistics do not capture a complete picture of the status of self-employed workers, farmers or fishers, those who are homemakers, those under the age of fifteen or those who are no longer looking for work. Furthermore, unemployment statistics, while seasonally adjusted, do not reflect the cycles of seasonal employment common in resource and tourism based industries. Full time employment as a percentage of the population provides a different perspective on employment by showing those who are actually employed in full-time jobs.

Limitations This indicator needs to be interpreted with caution and should not be presented in isolation from the other dimensions of income and labour statistics.

4.1.3 Employment Security

Definition Seasonal employment and part-time employment as a percentage of population by age and gender.

Source Nova Scotia Department of Finance

Rationale While income is a major determinant of health employment security also plays a significant role in the well being of individuals. While there is no standard definition of employment security the concept describes the degree to which people are employed in secure jobs that provides individuals and families with a degree of income predictability. Frequent job changes, seasonal employment and threat of layoffs can induce stress and anxiety that can contribute to poor health.

Limitations It needs to be acknowledged that a portion of the population chooses to be seasonally employed or employed part-time. Seasonal and part-time employment is a proxy measure for job security.

4.2 Cost of Living

4.2.1 Housing Affordability and Accessibility

Definition Core Housing Need (CMHC)

Source Canadian Mortgage and Housing (CMHC)

Rationale Most Canadians have access to a dwelling unit that is **adequate** in condition (does not require major repairs), **suitable** in size (has enough bedrooms) and **affordable** (shelter costs are less than 30 percent of before-tax household income). Some Canadians live in dwellings that do not meet one or more of these standards. In some cases these households could afford to rent alternative housing which meets all three standards; in some cases they cannot. A household is said to be in **core housing need** if it falls below at least one of the adequacy, suitability or affordability standards ***and*** if it spends 30 percent or more of its income to pay the average rent of alternative local market housing that meets all three standards.

Affordable and accessible housing is directly related to income levels. People with higher income can afford adequate, safe, suitable housing.

Limitations No specific limitations.

4.2.2 Food Security and Costs

Definition a) Total number of people assisted by food banks in Nova Scotia on an annual basis
b) Low Income Cut-Off (LICO)

Source a)Canadian Association of Food Banks: *Hunger Count 2002: Canada's Annual Survey of Emergency Food Programs*

b) Low-Income Cut-Off (LICO) Statistics Canada

Rationale **Food Banks**. There is no single appropriate indicator available to measure food security and costs. The Market Basket Measure, when it becomes available in Nova Scotia, will serve this purpose adequately. Hunger and food insecurity is a reflection of the consequences of poverty and marginalization. The use of food banks in Canada is like homelessness -- hunger and food insecurity emerge when social policies fail to ensure an adequate standard of living to assist individuals in meeting their basic needs. Food bank usage is also a reasonable proxy measure for other dimensions of poverty. In March of 2002 children constituted 40.8% of food bank recipients. This is high considering one quarter of Canada's population is under the age of 18.[4] Children and women continue to be over-represented in food banks despite recent social policy initiatives to eliminate child poverty.

LICOs are described as the income level where a family will tend to spend a significantly higher proportion of its income on food, shelter and clothing than the average family. When this measure was first developed using 1959 Family Expenditure Survey data, the average household spent 50% of its pre-tax income on food, shelter and clothing. Twenty percentage points were added to this figure, on the rationale that a family spending over 70% of its income on essentials could be regarded as being in "straitened circumstances". This 70% threshold was then converted to a set of Low Income Cutoffs that vary by family size and community size.

Since the LICOs were first introduced, average household spending on food, shelter and clothing has declined from 50% of before-tax income to about 35%. Since 1969, the proportions underlying the LICO calculation has been updated four times to reflect changes in average household spending on food, shelter and clothing. The most recent "rebasing" occurred in 1992. In addition to this periodic "rebasing", LICOs are updated annually using the Consumer Price Index. LICOs are now calculated for use with after-tax as well as pre-tax income. Depending on family size and community size, LICOs for 1996 ranged from $11,839 to $43,634 before tax and from $9,337 to $37,037 after tax.

Limitations No specific limitations.

4.2.3 Communications/Transportation

Tools of communication and transportation are commonplace and central to the fabric of Nova Scotia. Telephones, electronic mail, highways, cars, trains, air travel and the World Wide Web are defining features of Western culture. Access to these various forms of communication and travel are important and make significant contributions to the social and economic health of our communities. The Committee was challenged to find a single indicator -- or group of indicators -- that would help to elucidate the importance of communication and transportation to the health of populations but also felt that their omission from this Report would be noteworthy. It became clear that there is no single effective -- or easy -- way to describe the impact that a lack of effective and accessible communication tools and modes of transportation has on people's health. As a result it was decided that the LICO was the best measure to describe whether people could access appropriate communications and transportation. The LICO describes the amount of money that a family spends on the necessities of life. People that fall at the lower end of the income scale are faced with less disposable income that can be spent on non-essential items and this would include many forms of communication and transportation.

The LICO is a relative measure of poverty. Therefore the interpretation of the LICO and other poverty measures must be done cautiously. For example, there are many factors beyond cost that will affect one's accessibility to safe transportation. In the urban setting public transit is relatively inexpensive and easy to access, whereas in a rural area public transit may be non-existent and an individual's ability to travel may be more dependent on the presence of close friends or relatives as opposed to public transit.

People with low incomes face significant barriers to accessing acute and preventive health care, employment, recreation, and educational opportunities when they have diminished access to modes of communication and transportation that most take for granted.

It is worthwhile noting that the Market Basket Measure --currently not available in Nova Scotia -- defines poverty as being more than just low income, a lack of social inclusion and the need to rise above a subsistence existence. According to this view, people or households are poor if they cannot maintain a standard of living that makes them, in some sense a participating member of their community. The Market Basket Measure is based on the view that to purchase the "basket of market goods" the family or individual must have sufficient income to eat a nutritious diet, buy clothing for work and social occasions, house themselves in their community and pay for other necessary expenditures. This would include necessary forms of communication and transportation. At present the Market Basket Measure is not available in all provinces.

4.2.4 Social Participation

Definition Average number of volunteer hours (per capita).

Source Statistics Canada, National Survey of Giving, Volunteering and Participating, 2000.

Rationale Volunteering has been described as being the glue that holds a community together. Through volunteering friends and neighbours work together and this sharing of a common concern for the well being of their community fosters a sense of belonging and trust and this in turn promotes health. This investment in their community contributes to social capital which is a factor that is directly linked to health. Briefly stated, social capital is a concept that describes the relationship that citizens have to each other and to their community. Specifically, social capital is defined by the level of interconnectedness of people with their community and is characterized by active citizen participation in public affairs, the goal of pursuing the public good (as opposed to pursuing individual goals), tolerance, trust and cooperation.

Limitations Statistics Canada conducts this survey every four years.

4.2.5 Children in the Family Context

Similar to the "canary in the coal mine" analogy, the health of a society's children is a direct reflection of the health of that society. Poor children are at higher risk for illness, psychological problems and death than their non-poor peers. Since 1989, when the House of Commons passed a unanimous resolution to "...seek to eliminate child poverty by the year 2000", poverty among children has increased by 21%. One in six children -- approximately 1,139,000 children still lives in poverty in Canada. [5]

Despite consecutive years of economic growth, child poverty remains a persistent problem in Canadian society. More than 1.1 million children in Canada live in poverty. Robust growth and social investments in income support policies are finally contributing to an expected decline in the rate of child poverty - the number of poor children has dropped from one in five, to one in six for the first time since 1989. Yet, the one child in six children who remain in low income families have not experienced much of an improvement in their living standards.

In the midst of growing prosperity, low-income families still struggle to survive. In 2000, two parent families continued to fall deeper into poverty and would need, on average, $10,032 just to reach the poverty line. Despite some improvement, female-led lone-parent families would still require an additional $8,510 to reach the poverty line. According to 2000 statistics, in Nova Scotia 17.6% or 36,000 children were living in poverty.[6] This is in comparison with Canada figures where 16.5% or 1,139,000 children were living in poverty.[1] The academic literature provides ample evidence that there is a strong correlation between the economic circumstances of families and child mental and physical well-being. For example, it has been documented that:

- Poor children fare worse in almost every health indicator than their better-off counterparts;
- The death rate for infants younger than 28 days is 1.5 times greater in the poorest neighborhoods than in the more affluent neighborhoods;
- The mortality rate among children age 28 days to 1 year is twice as high in the poorest neighborhoods than in the richest neighborhoods;
- Poor families are at higher risk for having low-birth weight infants than rich families;
- The incidence of low birth weight in families in the lowest quintile of income is approximately twice that of families in the highest quintile;
- Low-birth-weight infants are more likely to die during infancy or to have lifelong learning disabilities than children of normal birth weight. [7]

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[1] Poor children are defined as those living in families whose total income before taxes falls below the Low Income Cut-Off (LICO) as defined by Statistics Canada.

The persistence of poverty compromises the immediate and long-term health, social development and cognitive ability of children. Children who live in poverty encounter more hurdles to healthy development and are at an elevated risk for a wide range of negative outcomes to their health and well-being. Research shows that poor children are more likely to experience a host of negative outcomes including lower functioning vision, hearing, speech, mobility, dexterity, and cognition. Poor children are also less likely to live in safe neighborhoods and are at a disproportionate risk of exposure to environmental contaminants.

It was for this reason that the Committee placed a particular emphasis on the presentation indicators related to income and social status of children.

Definition

a) Percentage of children represented in the low-income measure (LICO)
b) Percentage of children represented in the Low Income Measure (LIM)
e) Percentage of Children that live in families that receive National Child Benefit Supplement
f) The number of children who are in the care of child welfare agencies.

Source

a) LICO -- Statistics Canada
b) LIM -- Statistics Canada
c) National Child Benefit Supplement -- Nova Scotia Department of Finance
d) Children in child care agencies -- Nova Scotia Department of Community Services

Rationale

a) Low Income Cut-Off (LICO) (See presentation of this elsewhere in this report)

b) Low Income Measure (LIM) The LIM is defined as 50% of median income, adjusted for family size and composition using an equivalence scale. The scale in question uses a weight of 1 for the first family member and 0.4 for the second family member, regardless of age. The third and subsequent family members are assigned a weight of 0.4 if they are aged 16 or over and 0.3 if they are below age 16. Unlike the LICO, there is no differentiation by community size.

c) National Child Benefit Supplement Social expenditures such as the Canada Child Tax Benefit, the GST Credit and Employment Insurance are key to preventing children and families from falling into poverty. The National Child Benefit, Aboriginal Headstart, the extension of parental leave benefits and the Early Childhood Development Initiative, as well as some investments in affordable housing have begun to make an important contribution towards a comprehensive mix of income assistance and community services.

d) Children in Care Children come into the care of the Department of

Community Services for several reasons. Protection may be required due to abuse or neglect, parents may be absent or unable to care for their child, or the child may require special care of some type. A rising rate of children and youth in care may reflect increased awareness and reporting of child welfare concerns. However, a growing rate of children in care may also indicate that more families are having difficulties caring for their children. Increases in family stress may be related to changes in the economy, patterns of employment and unemployment or other social conditions.

4.3 Taxation

4.3.1 Redistributive Taxation Policies and Low Income Tax Benefits

Definition Usage of refundable and non-refundable tax credits

Source Nova Scotia Department of Finance, Tax Division, Statistics Canada and Revenue Canada

Rationale The federal and provincial tax structure provides for a redistribution of wealth by differential taxation policies. Individuals who are poor can benefit from tax deductions or exemptions because of their low-income status and as a result provide additional income that can be spent on necessities for daily living.

Limitations No specific limitations, though presentation of this indicator will require a qualitative narrative.

6.3.2 Tax Burdens

Definition Average effective tax rate by income level

Source Nova Scotia Department of Finance, Tax Division, Statistics Canada and Revenue Canada.

Rationale The laws governing taxation policies provide for differential tax rates based on total income. People who fall into the lower income brackets are taxed at relatively lower levels than individuals who earn more money. This has the effect of reducing the taxation burden on the lower income individuals and families. This indicator shows relative tax relief at low levels of income.

Limitations No specific limitations, though presentation of this indicator will require a qualitative narrative

1.07 Indicators that Need to be Developed

Poverty is a central feature in the discussion on income and social status. The challenge has been to adequately define poverty. Measures such as the Low Income Cut-Off (LICO) and the Low Income Measure (LIM) have been used as measures of poverty. Each measure is conceptually different and both measures have their strengths and weaknesses. Both government and interest groups alike have exploited this problem of defining poverty. Depending on how poverty is defined one can either trumpet success or criticize existing policies related to poverty. Depending on which measure is cited the actual number of people living in poverty changes thus complicating the debate on the actual prevalence of poverty in Canadian society.

The Market Basket Measure promises to be a more balanced measure of financial security/poverty. To purchase the "market basket" the family must have sufficient income—a "threshold" income—to:

- **eat a nutritious diet**—The family will be capable of purchasing a Nutritious Food Basket, as defined by Health Canada.
- **buy clothing for work and social occasions**
- **house themselves in their community**—The family will have the ability to rent a median-cost, three-bedroom apartment in their community.
- **pay for other necessary expenditures**—The family will be attributed an amount equal to 60 percent of the combined cost of the food and clothing budgets to cover other necessary expenditures such as personal care, household needs, furniture, telephone service, public transportation, reading, recreation, entertainment and school supplies.

The costs of the items in the preliminary Market Basket Measure vary across the country. In addition, the cost of the basket is adjusted for family sizes and configurations other than the reference family of two parents and two children. To determine the level of income available to consume the market basket items, the following deductions should be made from pre-tax income:

- income taxes and payroll taxes paid by members of the household;
- child care costs incurred to enable both parents or a lone parent to work for pay;
- child support payments made by non-custodial parents; and
- actual out-of-pocket medically prescribed expenditures for dental and vision care, prescription drugs and prescribed aids for persons with disabilities.

Conceptually, the Market Basket Measure has a number of advantages over the LICOs. It is more sensitive to geographical differences in real living costs—particularly rents. The derivation of the MBM is more transparent and understandable to the average person. And, it compares the living standard it establishes to the income actually available to purchase the goods and services that fill the market basket. The fact that the Market Basket is related to actual purchasing power makes it sensitive to all changes in government policy. This would include those that affect either the financial resources of or the taxes paid by each family and those that influence the costs of services such as child care, prescription drugs, dental and vision care, and aids for persons with disabilities. For this reason alone it is a valuable indicator for examining policies related to the social determinants of health.

A comparison of the Market Basket Measure thresholds to the 1996 LICOs reveals a marked difference between the two measures. The national incidence of low income using the LICOs is significantly higher than the incidence of poverty calculated using the MBM—17 percent using LICOs compared to 12 percent using the MBM.

At present the Market Basket measure is not available in Nova Scotia.

Endnotes

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[5] Campaign 2000. Poverty Amidst Prosperity:. 2002 Report Card on Child Poverty. www.Campaign2000.ca
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Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 3
Social Support Networks

1.01 Introduction

Early in the history of humans the formation of strong community bonds was an important feature to ensure survival of a community through collaborative hunting and the gathering of food. In many ways the maxim that there is safety in numbers applies to the concept of social support networks. All cultures recognize the value of attachment to others through kinship and community living. Conversely, there is ample evidence that the absence of social bonds or close networks of friends and relatives contributes to premature morbidity and mortality.

It is widely recognized that there is a strong correlation between the social support networks of people and health. Simply stated, social environments where there is support and nurturing from families, friends and colleagues is associated with better health. People who are involved in their communities and have a strong network of friends and relatives generally have better health status than individuals who live in isolation and do not enjoy -- or contribute -- to the benefits of community living. Many landmark reports on health and health care including the Lalonde Report, the Ottawa Charter for Health Promotion and the National Forum on Health have pointed to the importance of developing strong social support networks as a means to foster better health. It can be said that health is, "...the product of living together in community".

The health and social science literature has written extensively on the importance of social interconnectedness. The notion of social support networks is closely related to a concept known as "social capital". Briefly stated, social capital is a concept that describes the relationship that citizens have to each other and to their community. Specifically, social capital is defined by the level of interconnectedness of people with their community and is characterized by active citizen participation in public affairs, the goal of pursuing the public good (as opposed to pursuing individual goals), tolerance, trust and cooperation. Social capital is also characterized by the term "associationalism" which is a way to describe the inter-relationships among individuals.

Social capital can be examined from both the perspective of the community and from the perspective of the individual. At the community level there are three ways that define social capital: civic participation, opportunities to experience collaborative problem solving and associationalism. At the level of the individual there are two concepts that are integral to social capital namely, trust and commitment. Individuals and communities that value the positive aspects of associationalism, civic participation and collaborative problem solving can build social capital that can be drawn upon as a resource to foster community development.

While the Committee had no difficulty identifying the various dimensions that comprise social support networks and those factors that contribute to social capital, there were difficulties finding valid and reliable measures and data sources that adequately captured these relationships.

2.0 Committee Membership

The following individuals served as members of the Social Support Networks Committee either as volunteers or as representatives of their organizations:

Walter Proctor, Committee Chair, and Board Member, Provincial Health Council
Jane Cowie, Coordinator, Chebucto Links – Seniors Outreach Association
Leo Dillman, Executive Director, Nova Scotia Voluntary Planning
John Dow, Executive Director, Provincial Health Council
Vivian Farrell, Chair of Provincial Health Council
Elaine Ferguson, Executive Director, Childcare Connections
Mildred Noiles, Board Member, Provincial Health Council
Victor Maddalena, Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix One - Key Determinants of Health*) and it was through this initiative that the Social Support Networks Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals *(See Appendix Two - Nova Scotia's Health Goals*). The Terms of Reference of the Social Support Networks Committee are described in *Appendix Three - Terms of Reference Social Support Networks Committee.*

4.0 Framework for Developing Indicators

The Social Support Networks Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review the scientific, academic, economic and social literature and other national and provincial reports for health indicators related to social support networks. In addition there was consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See *Appendix Four – Criteria for Selection of Indicators*);
3. Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, rationale, limitations, and sources and

availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible indicators that are currently available.

5.0 Definition of "Social Support Networks"

Finding a succinct, all encompassing definition of social support networks is difficult. Social support appears to be a series of inter-connected concepts rather than a unitary phenomenon. Social support may refer to characteristics of a social system, such as patterns of roles and connections that exist between or among groups of people and the way in which these relationships have evolved. Alternatively, it may refer to characteristics and behaviors of individual people, reflecting their personality, feelings and attitudes. Social support networks -- where a network is defined as a bond or tie that exists among individuals -- may also be considered more strictly as a relationship of quality between or among people.

What is known is that the presence of social support promotes well-being and a deficiency in social support is an independent determinant of poor health status and marginalization or exclusion from the benefits of society. Also it is known that positive social and familial relationships help to moderate adversity. This is the "stress buffering" hypothesis; the presence of social support may work by increasing self-esteem or feelings of self worth and the comfort of knowing that there is someone who one can turn to in times of trouble or need.

Strong social support networks also accelerate recovery once a person is ill. It is known that people without support tend not to recover as well as those that have a support network of friends and relatives. This may occur as a result of emotional support or that the sick person has a reason to live if they feel needed and loved. The tangible effects of having someone to assist with chores of daily living such as shoveling their driveway, or shopping for groceries while they are ill, constitutes a form of practical support which also aids in recovery. In a crisis a close network of friends or relatives with strong ties may be the most valuable in offering emotional support and tangible services to assist the individual.

There is also an indirect benefit to having a strong network of social supports. Take for example how social relationships can influence one's health related behaviors, such as encouraging preventative practices or encouraging a person to engage in unhealthy lifestyle choices. Social networks are also means by which individuals receive feedback regarding behaviors that are part of the acceptable social milieu.

Low levels of social support can also be an effect rather than a cause, because the effects of ill health, poverty and social exclusion tend to have the effect of reducing social contact. There is also some evidence that there may be direct biological effects as a result of positive social interactions through the release of beta-endorphins.

Social support also functions by providing friendship, love, expressions of concern, understanding, empathy and encouragement and the reassurance of knowing someone who can provide assistance when the need arises. Social support also functions by providing instrumental or practical help, such as assistance with childcare, household help or volunteering in general.

Social Support Network as a Determinant of Health

Definition

Support from families, friends and communities is associated with better health. The importance of effective responses to stress and having the support of family and friends provides a caring and supportive relationship that seems to act as a buffer against health problems.

6.0 Recommended Indicators

6.1 Voter participation

Definition	Percentage of Nova Scotians age 18 years and older who reported voting in the last election (Municipal, Provincial and National).
Source	Caring Canadians, Involved Canadians -- Highlights from the 2000 National Survey of Giving, Volunteering and Participating. Statistics Canada - Cat. No. 71-542-XIE.
Rationale	Exercising the right to vote is one of the many ways Nova Scotians participate in community life, and voter participation is a key indicator of the democratic health of a society. Voter "turnout" is also an indication of the confidence that Nova Scotians have in the political process to bring about constructive and effective governance.
Limitations	No specific limitations. National comparisons would be helpful in interpretation.

6.2 Charitable Donations

Definition a) Donor Rate
b) Total Amount of Donations per capita
c) Total number of Donations

Source Statistics Canada, Highlights from the 2000 National Survey of Giving, Volunteering and Participating. Cat. No. 71-542-XIE.

Rationale Charitable giving is an essential part of Nova Scotian culture. In the 2000 survey year the Atlantic Provinces in general and Nova Scotia in particular has higher percentages of the population who make donations than other provinces. The vast majority of Nova Scotians make charitable donations thus helping to improve the quality of life in their communities and in the province as a whole. Giving money, goods or time to organizations makes it possible for those organizations in turn to provide valuable services to individuals in need.

Limitations No specific limitations

6.3 Community Participation

Definition Percentage participating as member by type of organization or group, Canadians age 15 and older. This includes work-related, sports or recreation, religious affiliation, community or school related, cultural, educational, hobby related, service club, political group and "other".

Source Statistics Canada, National Survey of Giving, Volunteering and Participating, 2000. Cat. No. 71-542-XIE.

Rationale Groups and organizations such as service clubs, hobby organizations, sports and recreation organizations, school groups, political organizations and neighborhood associations enable Nova Scotians to come together and pursue common interests. Communities benefit because many of these organizations undertake activities that benefit not only their own members, but also the broader community. Participation in groups and organizations promotes interpersonal trust and social bonds -- which is a key feature of social capital -- among community members and provides a solid foundation for community action on many fronts.

Limitations No specific limitations

6.4 Volunteering

There are five indicators under the heading of volunteering that the Committee deemed relevant to the objectives of the social support networks theme.

Definition

a) Rate of volunteering -- Proportion of the population age 15 and older who report having participated in volunteer activities in the past year;
b) Hours volunteered -- Total hours volunteered in Nova Scotia (with Canadian comparison;
c) Distribution of Volunteer Events by Type of Organization
d) Volunteer activities done directly for others, not through an organization
e) Dollar Value and Full-Time Equivalent of Volunteer hours

Source Caring and Involved: Highlights from the 2000 Survey of Giving, Volunteering and Participating, Statistics Canada, Cat. No. 71-542-XPE.

Rationale Voluntary work has been described as the glue that holds society together. Through volunteering friends, family and neighbours work together and this sharing of a common concern fosters a sense of belonging and trust and contributes to a community's social capital - a factor that is linked to health. Voluntary activity can be performed through a structured organization. Volunteering may also be done on a more informal or temporary basis, such as helping a friend or neighbor in need.

Limitations The Statistics Canada National Survey of Giving, Volunteering and Participating is conducted on an infrequent basis every three years.

6.5 Children and Youth in Care

Definition The number of children who are in the care of child welfare authorities as a proportion of the total child population age 0 to 18.

Source Nova Scotia Department of Community Services

Rationale Most children live in families with one or both of their biological or adoptive parents. In cases where children and youth under 19 years of age are unable to live with their families, the Department of Community Services provide for substitute parenting. Children and youth come into care of the Department of Community Services for several reasons. Protection may be required due to abuse or neglect, parents may be absent or unable to care for their child, or the child may require special care of some type. A rising rate of children and youth in care may reflect increased awareness and reporting of child welfare concerns. However, a growing rate of children in care may also indicate that more families are having difficulty caring for their children. Increases in family stress may be related to changes in the economy, patterns of employment and unemployment or other social conditions.

Limitations No specific limitations.

6.6 Day Care for Children (Formal Child Care)

There are two basic types of childcare services. First many parents choose informal, privately arranged care for their children either within their own home or at the home of caregivers, such as grandparents and other relatives, friends, babysitters and nannies. The second category of childcare represents a more formal or structured approach. Unlike informal care, these programs are subject to provincial regulations and are inspected and monitored. Formal care is offered by childcare or day-care centres, nursery schools, and family-based day-cares. Many programs for school-age children outside school hours can also be categorized as formal. For the purposes of this Report the focus will be on formal childcare services because there is no valid and reliable measures for informal care giving of children.

Definition
a) Number of subsidized day care positions in Nova Scotia;
2) Average expenditure on childcare services per household;
3) Proportion of households that spent money on childcare services.

Source Statistics Canada. Family Expenditures Survey (FAMEX) and Survey of Household Spending (SHS);

Stafford, J. (September 2002) A Profile of the Childcare Services Industry. Catalogue No.63-016-XPB, Statistics Canada.

Rationale The child care industry has changed significantly over the past two decades. With an increasing number of women returning to the workforce following pregnancy there is a greater demand for child care services.

Results from the 1996-97 release of the National Longitudinal Survey of Children and Youth suggest that children enrolled in early childhood programs and day-care centres appear to get a head start in school over youngsters who stay at home with a parent. The childcare industry also makes a significant contribution to the Nova Scotian economy.

Limitations No specific limitations.

6.7 Suicide Rate

Definition The number of deaths due to suicide, expressed as a rate per 100,000 population.

Source Nova Scotia Vital statistics, Department of Finance, Population Statistics, Statistics Canada.

Rationale The causes of suicide are complex and embedded in the social fabric of society. This indicator measures the long-term success in reducing suicide which is a social as well as a major public health concern. Focussing on the underlying social causes, helping young adults to develop coping skills, treating mental illness, and reducing the availability of guns and other means for suicide can reduce suicide rates. It has been estimated that for every completed suicide, 10 to 100 suicides are attempted.

Limitations In some instances it is difficult to discern if the death was due to suicide or some other cause. This indicator needs to be interpreted with caution. Suicide rates may fluctuate from year to year, so multi-year periods should be examined.

6.8 Number of Self-Help Groups in Nova Scotia

Definition Number of self-help groups registered in the registry of the Nova Scotia Self-Help Connection

Source Nova Scotia Self-Help Connection (http://www.selfhelpconnection.ns.ca/)

Rationale The International Network For Mutual Help Centres defines self-help as, "… a process wherein people who share common experiences, situation or problems can offer each other a unique perspective that is not available from those who have not shared these experiences." Self-help groups are run for group members. Professionals may participate in the self-help process at the request and sanction of the group and remain in an ancillary, or consultant role. Activities focus on social support through discussion and sharing of information and experiences but may extend to other activities and ways of interacting. Self-help groups are open to people who share a common concern. Self-help groups meet face-to-face on a regular basis, are voluntary and open to new members. There is no charge to participate in a self-help group, although a nominal donation to cover expenses is sometimes requested, but not required.

While it is not easy to demonstrate the benefits of self-help through empirical research there is evidence that participating in self-help groups has a beneficial impact on the lives of individuals. For example it has been demonstrated that participating in self-help groups empowers people to take control over their own lives and increases their social interaction with others who share similar life situations. Self-help, because it is run on a voluntary basis costs less than other "helping" services. Also, participation in self-help groups increases self-esteem and assists with developing coping skills and helps to relieve anxiety of the unknown through collaborative learning.

Limitations No specific limitations. These figures will not include the many, informal self-help groups that exist in the province.

6.9 Junior High School and High School Student Population Employed Full or Part-time

Definition Employment full and part time by age group and gender.

Source Nova Scotia, Department of Finance, Labour Force Estimates of Full and Part Time Students during School Year by Age Groups, Sex and Province.

Rationale Increasingly, students in the junior high and high school ages are working either by choice or out of necessity. Part-time jobs are a way of learning valuable life and occupational skills and employment provides opportunities for socialization and foster a sense of belonging. Full-time jobs in the summer months provide opportunities to earn money for spending or saving longer term for university. However, when full-time or part-time work during the school year becomes a necessity to survive then this can interfere with school work and academic performance. Increases in the numbers of students working full or part-time during junior high and high school age years is a cause for concern.

Limitations This is a proxy -- or reasonable substitute -- measure. This data must be interpreted by age group and not by school grade, since age by grade is not standard.

6.10 Child Abuse or Neglect

Definition The number of confirmed reports of abuse or neglect (as defined under the Community Services Act) expressed as a rate per 1,000 population age 0 to 18.

Source Nova Scotia Department of Community Services
Statistics Canada.

Rationale Abuse or neglect by a parent or other caregiver presents a serious threat to a child's health. In the short term, abuse or neglect can result in physical harm or even death. Abuse can also lead to developmental or behavioral problems, or to mistreatment of the child's own children in later life. This indicator suggests the extent to which children's security is threatened rather than protected by the adults on whom they are most dependent. The incidence of child abuse is often a reflection of high levels of family stress brought about by economic hardship, low self-esteem or a previous history of neglect of abuse of the parents.

Limitations Data are based on the number of complaints reported and confirmed. Although there is a legal requirement to report suspected abuse, some cases are not reported.

7.0 Indicators that Need to Be Developed

7.1 Care Giving of Family Members by Family members

There is evidence that there are increasing numbers of people -- seniors, the disabled, people with brain injuries, or children with developmental disorders -- who are being cared for by family members in their own homes. There are several reasons for this phenomenon. Funding reductions in social programming and a general lack of acknowledgement of the nature and scope of the problem has contributed to a lack of policy action to address this very real problem. In the past ten years as a result of funding reductions to the health care system there has been an increasing trend towards day surgery and early discharge programs from hospitals. In addition, there is a lack of long term care beds and placements for disabled, or brain injured individuals. This responsibility for care has placed additional burdens on families and in particular women who tend to be the primary caregivers in family units.

There are no sources for valid and reliable statistics that measure the amount of care given in the home. There is a need to develop accurate ways of defining, identifying and measuring the care given to family members in the home.

7.2 *Care for Seniors* [1]

Seniors constitute one of the fastest growing groups in Canadian society today. As well, the senior population will grow even faster in the next century, particularly when baby-boomers begin turning age 65. This rapid growth in this segment of the Canadian society will have a significant impact on the demands for services, products, and special programs. For example, by 2041, about 23% of the population will be over 65, up from 12% in 1995.

Because of higher life expectancy, women make up a relatively large share of the senior population, especially that in the very oldest age ranges. In 1995, 58% of all people aged 65 and over, and 70% of those aged 85 and over, were women. Most seniors live at home, as opposed to in an institution. In 1991, 92% of all people aged 65 and over lived in a private household. Substantial proportions of these seniors live alone. In 1991, 28% of all people aged 65 and over lived alone, compared with just 8% of those aged 15-64. Senior women, especially those in the very oldest age groups, are most likely to live alone. In 1991, 38% of all senior women, and 53% of those aged 85 and over, lived on their own.

Most seniors report that their health is generally good. In 1994, almost three out of four seniors living at home rated their health as either good, very good or excellent. At the same time however 32% of non-institutionalized seniors reported they suffered from chronic pain or discomfort and 39% said they experienced some level of activity restriction because of a chronic health problem.

The majority of seniors take some form of prescription or over-the-counter medication. At the same time, almost all institutionalized seniors -- 96% in 1995 -- had taken some form of medication in the two days prior to the survey date.

While this segment of the population is predicted to experience rapid growth in the next 20 years there remains the challenge of identifying indicators that are relevant to social support networks. There is evidence that having a strong social support network is essential to an individual's health. With increasing numbers of seniors living alone and a large proportion of seniors living in rural areas -- where transportation issues can contribute to social isolation -- the need to capture these phenomenon in the form of statistics is important. Furthermore, since much of the care for seniors is given in the home setting -- outside of institutions -- capturing these statistics in a valid and reliable form becomes a challenge.

There is a need to identify and collect statistics in the area of care for seniors. Statistics

Canada has only recently standardized the definition of "Care to Seniors". They state, "Care to seniors refers to the number of hours persons spent providing unpaid care or assistance to seniors in the week prior to Census Day. This includes hours spent providing care for senior members of one's own household, for senior family members outside the household, friends or neighbours." [2] Information was captured in the 1996 Census, but the definition of Senior was not specified and therefore there is some concern regarding validity of the figures. There is a need to further standardize definitions for such concepts as respite care, day care for seniors, to permit collection of accurate statistics.

In addition, there are other indicators related to the social support networks of seniors that need to be developed, for example, statistics on elder abuse, utilization of day programs for seniors, respite care and the impact of the Market Basket Measure as it applies to senior populations.

Endnotes

1. Source: Statistics Canada: A Portrait of Seniors in Canada. (3rd Ed.) Catalogue No. 89-519-XPE

2. http://www.statcan.ca/english/Pgdb/deffamil57h.htm

Provincial
Health Council

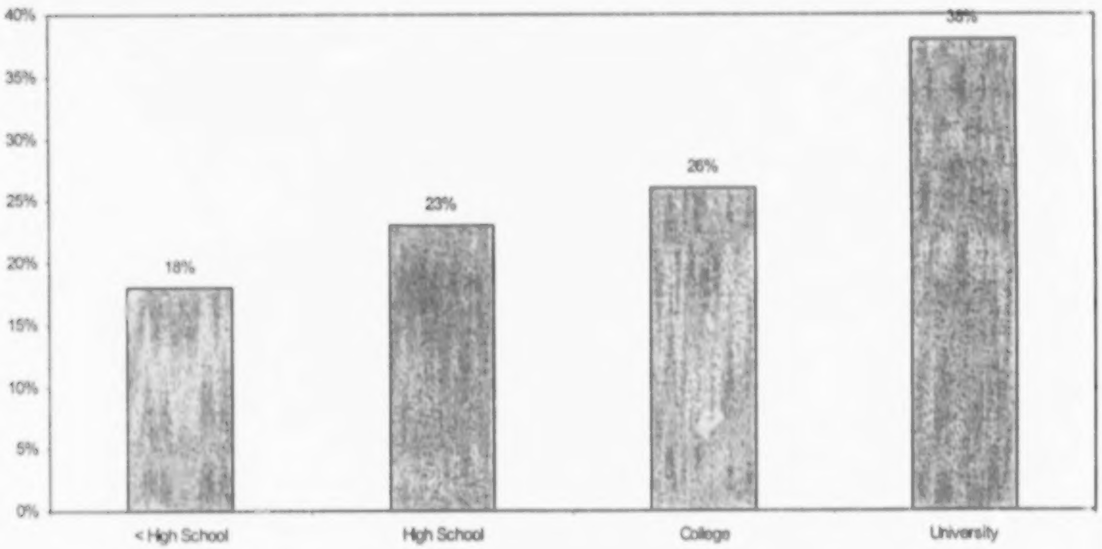
The Health of Nova Scotians
A Life Cycle Approach

Chapter 4
Education

1.0 Introduction

Education has been identified as a major indicator of health. As educational attainment increases, so does health status. For example, results from the 1994-95 National Population Health Survey showed that only 18% of those with less than a high school education self-reported their health to be excellent, whereas the percentage improves to 23% among those with a high school education, 26% among those who completed college and 38% of those with a university education (see Figure 1; Advisory Committee on Population Health, 1996). Despite the convincing relationship between education and health, the causal pathway between the two factors is not as clear as it is for some of the other determinants of health such as personal health practices, genetic and biological factors, and health and social services. This is largely because the relationship between education and health tends to be indirect. For example, educational attainment, together with occupation and income, influences socioeconomic status or one's prestige in society, which is strongly correlated with health-related characteristics such as health status and life expectancy [1 2]. Educational attainment increases employment opportunities, which in turn increases financial security, control over work circumstances/conditions and job-related stress, job security and satisfaction etc. Research has shown that each of these factors tends to be related to increased socioeconomic status and improved health status [2].

Figure 1: Education & Self Rated Health: Percentage with Excellent Health (Self-Reported)



Source: National Population Health Survey 1994-95, Health Canada, 1996.

Educational attainment also influences health through literacy, or one's ability to "use written information to function in society, to achieve their goals and to develop their knowledge and potential." [3] . An extensive study of literacy and health cosponsored by the Ontario Public Health Association and Frontier College found low literacy levels to have a strong negative effect on health status [4]. Literacy affects health by improving one's ability to use written information to maintain and improve health. For example, people with higher literacy levels tend to have better access to health information, have a better understanding of health concepts and terminology, and are better informed about where to go for the health services they need [5]. Conversely, low literacy increases the risk of incorrect use of medications, inability to follow medical directions, failure to understand the risks of medical procedures, difficulty in understanding written safety instructions or precautions on machinery, chemicals, in the work place etc.

Given the breadth of the educational system and the role of various levels of government, there are numerous potential indicators related to education that could be used to benchmark and monitor this important determinant of health. However, for purposes of this report, the Committee limited its choice to a handful of indicators based on the criteria for selection of indicators as described in Appendix 3 of this report.

Note: Terms that appear throughout the body of the report in a light grey font have been defined in the Glossary of Terms (see Appendix 5).

2.0 Committee Membership

The following individuals served as members of the Healthy Child Development Committee:

Tom Bird (Chair) - Board Member, Provincial Health Council
Suzanne Brown, Beechville - Lakeside -- Timberlea Teen Health Centre
Heather Christian, Nova Scotia Department of Health
Michael Colborne, Nova Scotia Provincial Library
John Dow, Executive Director, Provincial Health Council
Barbara Hart, Ex-Chair, Provincial Health Council
Philip Hochman, Municipality of the District of Guysborough
Vivian Farrell, Board Member and Chair, Provincial Health Council
Marg Forbes, South West Regional School Board
Merle MacDonald, Acadia University/Mount Saint Vincent University
Brenda Montgomery, Health Care Consultant
Mildred Noiles, Provincial Health Council
Bob Quigly, Halifax Regional Parks and Recreation Services
Elizabeth Semple, North Shore Community Health Board
Gordon Walsh, Research and Statistical Officer, Provincial Health Council

Dr. Deborah Kiceniuk and Naomi Mensink both played an important role in the early stages of the Committee's work.

3.0 Background and Mandate of the Committee

In 2001, the Provincial Health Council began the process of developing indicators for each of the twelve determinants of health (See Appendix One - Key Determinants of Health). Subsequently the Education Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, and decision-makers in government and public agencies with the means to benchmark and measure progress on achieving Nova Scotia's Health Goals. The Terms of Reference of the Education Committee are described in Appendix Two - Terms of Reference Education Committee.

The specific objectives of the Education Committee were to:

- Develop and recommend education indicators that could be incorporated into a Report Card for the public on health issues in Nova Scotia. These indicators (approximately 10 key indicators) on the state of education should be "user friendly" so they can be understood by the public, the media and politicians alike. The purpose of identifying these indicators is to serve as an education tool for communities interested in measuring education, monitoring progress, and encouraging change in policy aimed at improving the prospects for Nova Scotia's citizens.

- Advise government on the benefits of developing public policy that promotes education. Although Education is a Determinant of Health in and of itself, it is also recognized that a range of social, cultural, and economic factors influence education. Such are the interconnectedness of the determinants of health using a Population Health perspective. The government must be informed of the positive and negative impact that policies related to education can have on health.

In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive dialogue and, where necessary, change to education-related policy.

4.0 Framework for Developing Indicators

The Education Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review of the scientific literature and other national and provincial reports for health indicators related to education. Consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See Appendix Three - Criteria for Selection of Indicators);
3. Review of indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, rationale, limitations, and availability of the

data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of the Education Committee members and in no way reflects the entire range of possible education indicators that are currently available.

5.0 Definition of Education

6.0 Recommended Indicators

6.1 Education Profile of the Population

Definition	Highest level of education completed among population aged 15 and older.
Source	Statistics Canada; Nova Scotia Department of Education
Rationale	Given the relationship between health and education, gains in the educational profile of a community should lead to a general increase in the overall health of the population, although it could take some time for the effect to be recognized given that most disease conditions occur later in life. While the educational profile is not particularly sensitive to change in the short term, it is a purer measure of educational progress in a given population than other measures that are widely reported on (e.g., high school graduation rate, university participation rates). This is because the education profile is based on Census information, which provides a static snapshot of the permanent residents of a given population. Other educational progress measures fail to account for the mobility of students/graduate students in and out of the population of interest. The 1995 School Leavers Follow-up Survey [6] found that the level of education attained is cyclical; that is, those with low levels of education tend to come from families with low education and those with high levels of education typically come from families with higher educational backgrounds. If the educational profile of a community is to improve, policies need to be developed and implemented to break the intergenerational cycle.
Availability	Every five years.

Limitations The data are collected by Statistics Canada during each census period. Also, there is a reporting lag of approximately one year. The most recent data available, in other words, would be one to six years old.

6.2 High-School Graduation Rate

Definition Graduation rates are computed using a cohort method. This method relates the number of high school graduates in a given year to the number of students enrolled in grade nine three years earlier.

Source Nova Scotia Department of Education

Rationale High school graduation is a prerequisite for post-secondary education and many job opportunities. The 1995 School Leavers Follow-up Survey[6] found that those with a high school diploma had slightly better labour market outcomes (higher levels of marketable skills and higher paying jobs) than those without a diploma.

Assuming that high-school graduates remain in or come back to the population of interest, increases in the high school graduation rate should lead to a general increase in the overall health of the population. However, given that high-school graduates are young and many disease conditions occur later in life, it could take some time for the effect to be recognized.

Availability Annual

Limitations The data are maintained by the Department of Education and are comparable across school boards. While the data are available annually, there is a reporting lag of approximately one year. The most recent data available, in other words, would be one year old.

6.3 University Participation Rate

Definition University participation rates are defined as the percentage of high school graduates that enroll in university either full-time or part-time in the first year following graduation.

Source Nova Scotia Department of Education and Statistics Canada

Rationale While high school graduation can be thought of as the minimum requirement for many jobs in the labour force, post-secondary education/training is increasing becoming a prerequisite as Canada's economy evolves from being manufacturing and resource-based to knowledge-based.

Indeed, the 1995 School Leavers Follow-up Survey [6] found that a high school education might not be enough in Canada's knowledge-based economy. The survey found that labour market outcomes improved with education. Those with higher levels of education had greater employment opportunities, higher income, higher levels of skill usage and higher self assessed skill abilities, and greater access to further training opportunities.

Availability Annual

Limitations Data for community colleges, trade and vocational programs are not available. Also, participation does not imply graduation from university. In fact, anecdotal evidence suggests that many first year university students withdraw/fail after their first year of study.

6.4 Student Academic Assessment Results

Definition The National School Achievement Indicators Program (SAIP) is a national assessment that measures the academic achievements of a sample of 13- and 16-year-old students nation wide. Both age groups write components of the same test and assessment results are presented as the proportion of 13-year-old students that would achieve level 2 and the proportion of 16-year-old students that would achieve level 3. SAIP developers anticipated that the majority of students at in each age group would meet the specified level.

Source Nova Scotia Department of Education

Rationale Assessment results are indicators of the quality of the provinces public school system, the policies and actions that guide it and the performance of the students [7]. The National School Achievement Indicators Program (SAIP) assesses the performance of Nova Scotia students in mathematics, science and language arts in cycled administrations (e.g., only a single subject area is tested for in a given year). Because the program is administered elsewhere in Canada and in 32 countries internationally, the test results allow for provincial, national and international comparisons. Assessment results can also be used to develop healthy public policy related to education.

Availability Annual - see limitations

Limitations While the National School Achievement Indicators Program (SAIP) encompasses mathematics, science and language arts, only a single subject area is tested for in a given year. The schedule rotates such that there is approximately a four year lag between follow up for each subject (e.g., testing for mathematics occurred in 1993 & 1997). Therefore, it takes time to establish trends.

6.5 Mobility of Post-secondary Graduates

Definition Graduate mobility refers to the percentage of graduates leaving Nova Scotia following graduation from postsecondary institutions.

Source Statistics Canada - National Graduates Survey

Rationale A highly skilled and well-educated work force is seen as being a prerequisite for global competitiveness in the knowledge-based economy. High rates of recent postsecondary graduates are considered a valuable resource for strengthening the economic framework because they attract the jobs that lead to economic growth. High rates of graduate mobility, on the other hand, represent a decline in this valuable resource. These individuals also make important social contributions. The phenomenon is sometimes referred to as the "brain drain."

The brain drain is often portrayed in the media as the movement of young, highly skilled workers from Canada to the United States due to increased opportunities, lower taxes, better wages etc [8]. The same prospects have created the flow of qualified individuals from the have-not to the have provinces on the domestic front. What's more, the have-not provinces lack the capacity to attract replacements or repatriate migrants, thereby widening the gap in economic disparity that exists between the have-not and the have provinces [9]. Policies that focus on early career development for academics/researchers and research support in universities are thought to stem the flow.

Availability Every five years

Limitations Includes students returning to their hometowns outside of the population of interest. This figure is about 44% of postsecondary students in Nova Scotia [10].

6.6 Student /Educator Ratio

Definition The student-educator ratio is the total student enrolment divided by the number of educators in full-time equivalencies. Educators can be classified as either school-based (e.g., classroom teachers, guidance counsellors, special education teachers, principals, and vice principals) and non-school-based (e.g., subject/curriculum consultants, coordinators/supervisors, psychologists, superintendents, assistant superintendents).

Source Nova Scotia Department of Education

Rationale Classroom conditions, particularly student-teacher ratios, are central to student learning. Research has shown that smaller student-teacher ratios, which lead to smaller classroom sizes, improve student's academic and behavioural development at all grade levels, particularly with younger children in the primary grades and those with lower socio-economic status [11] [12] [13] [14] [15]. This is largely because lower student-teacher ratios increase the opportunities for teachers to provide individual attention to each student. Students receive a greater share of the educational resources, including teacher time, in smaller classrooms. Lower student-teacher ratios or small classes also improve the classroom atmosphere by fostering positive relationships and making it more difficult to escape the classrooms positive educational influence. Finally, teachers also benefit from lower student-teacher ratios or small classes because they can manage the classroom more effectively and have more flexibility in using different instructional approaches.

Availability Annual

Limitations The student/educator ratio is only a proxy for student/teacher ratio. Because many of the educators included in the student/educator ratio are non-school-based, the measure is lower than what the student/teacher ratio would be if only classroom teachers were used.

6.7 Employer Sponsored Education and Participation Rate

Definition The employer sponsored education and training participation rate is the percentage of employed adults aged 17 and older that participated in any form of employee-sponsored education and training in the past 12 months. Students between the ages of 17 and 24 years who are enrolled in full-time, non-employer-sponsored studies/training are excluded, as it is likely that these students are not returning to formal education.

Source Statistics Canada - Adult Education and Training Survey

Rationale In today's economy, the skills, qualities, and knowledge required to perform most occupations is constantly evolving. New technologies, information and innovation demand higher skill and knowledge levels and, often, compliance with certification and regulatory standards. The knowledge-based economy requires that adult workers have the flexibility and capacity to keep up with changes in the workplace to remain competitive and relevant [16]. Lifelong learning is therefore a new reality for many adult workers.

The workplace, through employer-sponsored education and training opportunities and support, plays an integral role in helping adult workers renew and upgrade their skills, thus allowing them to actively participate in the labour force and derive the subsequent social and economic benefits [17].

Availability Every two years

Limitations Only shows level of interest in continuing education among the employed population. Also does not include on-the-job training or duration in training. The greatest limitation is that it fails to monitor participation rates among the unemployed. Therefore, approximately 10% of Nova Scotia adults who are unemployed would be ineligible for the survey.

6.8 Literacy Levels

Definition Proportion of Nova Scotia adults aged 16 and older with minimum literacy skills. Literacy is defined as the "ability of adults to use written information to function in society, to achieve their goals and to develop their knowledge and potential." It is typically measured on a five-level continuum with 1 being the lowest level of literacy and 5 being the highest.

Source Statistics Canada - The International Adult Literacy Survey (IALS)

Rationale Literacy is of fundamental importance to individual and social well-being. Research has shown a positive relationship between literacy levels and earning potential and actual income [18]. Research has also shown that individuals with low literacy face greater barriers in the health care system than their counterparts and tend to have poorer health overall [4].

According to the International Adult Literacy Survey (IALS) people need to have level three literacy to participate successfully in society [19]. Findings from the IALS suggest that many Canadians (48%) fall below that level and, therefore, cannot fully understand the reading materials encountered in everyday life. What's more, they do not have the literacy skills to participate in the education and training opportunities required to keep up with a constantly evolving labour force [20]. Similarly, 52% of Atlantic Canadians fall below level three literacy.

Availability Irregular: every five to ten years. Last survey was conducted in 1997.

Limitations Data are collected very sporadically among the population aged 16 and older.

6.9 Curriculum - Percentage of Curriculum Dedicated to Health

Definition The percentage of overall instructional time that is dedicated to health and health-related issues (e.g., physical education, personal development, relationships).

Source Nova Scotia Department of Education

Rationale According to the World Health Organization's definition of health, health is as much about positive well-being as it is the absence of disease [21]. Health education helps people achieve positive well-being and avoid negative outcomes by engaging them in an understanding of health-related issues. Educated people are better able to make informed decisions about relevant issues and better able to implement those decisions. School curricula that addresses health and health-related issues, therefore, represents a major advancement for the overall health of the community.

Currently, the Nova Scotia Department of Education curriculum guidelines recommend that 4.4% of instructional time be spent on health and health-related topics from Primary to Grade 2 and 4.2% for Grades 3 to 6 [22]. Beyond Grade 6 there are no formal minimum requirements although the Department is proposing a 8-10% minimum requirement. This would represent a twofold increase from a decade ago.

Availability Annual

Limitations The guidelines are only minimum requirements. More time might actually be spent in the health domain than required. Also, there is no requirement that teachers have an education background that includes health content and issues.

6.10 Proportion of Schools with Youth Drop-In Health Centres

Definition Proportion of schools with on-site youth drop-in health centres.

Source Department of Education

Rationale School-based youth drop-in health centers provide students with convenient access to health information, resources, and referral services [23]. Students are encouraged to drop-in and speak with the health centre nurses or browse through the information and resource materials. Direct services typically provided include first aid, consultation, one-on-one and group information and support services, classroom workshops, condom distribution, pregnancy tests, and referral.

School-based youth drop-in health centres appear to have several advantages over their community-based counterparts. First, the health centre nurse is an active participant in the school community. Familiarity builds trust and increases the likelihood that youth will consult with the health centre nurse when seeking health information/advice. Second, school-based centres allows for interaction with the largest population of youth. Third, having the centre in the school increases awareness of the health services available to youth and provides convenient access to such services. Fourth, privacy/confidentiality is enhanced in school settings because youth do not have to worry about being seen coming in from the street and stigmatism is reduced because there are a range of reasons for youth to drop in to the centre including social visits, peer health education initiatives, etc. Finally, peer health education programs are easier to develop and facilitate when initiated within the school.

Availability Yearly

Limitations The existence and operation of youth drop-in health centres is dependent on adequate funding. To date, funding has been unstable and most centres operate on a year-to-year basis.

7.0 Indicators to be Developed

As stated earlier, the indicators selected are not meant to be exhaustive in terms of covering the educational infrastructure in Nova Scotia or the attainment level of the population. Instead, in the opinion of the Education Committee, they represent the best of what's currently available under the terms set out in the selection criteria (Appendix 3). In reviewing the current indicators the Education Committee felt that two important areas, the proportion of schools with school safety programs and Individual Program Plan (IPP) student assimilation, need consideration in future reports. Both areas need significant development in terms of yielding valid and reliable data. The literature on school safety programs is compelling enough to warrant such development. For example, longitudinal research has shown that children who are bullied or victims of bullying are at increased risk for several long-term negative consequences including criminality, school drop out, unemployment, depression, anxiety, and reduced attainment and competence in adulthood [24 25]. A recent study using data from Statistics Canada's National Longitudinal Survey of Children and Youth suggests that approximately 14% of Canadian school children are bullies whereas 5% are victims [24]. What's more, there is evidence that a comprehensive school-based anti-bullying program can reduce bullying and provide a safer and healthier environment within the school community [26]. Unfortunately, very little is known about IPP student assimilation. The programming is intended to allow people with identified needs to integrate and function in society. In some cases this requires a tremendous amount of school resources and collaboration between school personnel and members of the community. If IPP students fail to become assimilated, they could potentially become expensive members of society through increased social costs. Consequently, the Education Committee identified both areas as being indispensable to future reports meant to measure progress in Education.

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Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 5
Employment & Working Conditions

1.0 Introduction

A person's employment status and the conditions of the workplace will have an impact on the health of individuals and their families. Occupational Health and Safety has become a prominent issue in Canadian society. One of the significant turning points in recent times in Nova Scotia that heightened the awareness of occupational health and safety came as a result of the Westray Coal Mine Disaster. On the morning of May 9, 1992 an explosion at the Westray Coal Mine in Stellarton, Pictou County killed all 26 miners working underground. In the aftermath of the explosion many questions were asked regarding safety standards in the mine and the role of employees, management and government officials. The Westray Inquiry Commission was formed to conduct a complete review the circumstances that could lead to such a disaster. The Final Report of the Westray Inquiry recommended sweeping changes to the Occupational Health and Safety Act and demanded a new attitude be adopted by government, employers and employees regarding the importance of workplace safety.

The following excerpt is from a speech given by Justice K. Peter Richard in which he highlights the need to change the culture of safety in the workplace. He states,

"In summary then, a safe workplace demands a responsible and conscientious commitment from management - from the Chief Executive Officer down. Such a commitment was sadly lacking at the Westray mine. Since there was no discernible safety ethic, including a training program and a management safety mentality there could be no continuum of responsible safety practice within that workplace. Complacency seemed to be the prevailing attitude at Westray - which at times regressed to a heedless disregard for the most fundamental safety imperatives. As I stated in the report, compliance with safety regulations was the clear duty of Westray management. To insure that this duty was undertaken and fulfilled by management was the legislated duty of the inspectorate. Management failed, the inspectorate failed, and the mine blew up." [1]

A recent press release from the Pan-American Health Organization (PAHO) states that the problem of safety and health in the workplace continues to be an important global issue. PAHO cites a study recently issued by the International Labour Organization that stated that 250 million people experience work-related accidents every year throughout the world and that approximately 3,000 people die each day from work-related causes. (PAHO, May 2, 2003). The PAHO release also indicates that in the Americas the figures are alarming. In Latin America and Caribbean there are 36 occupational injuries every minute and that approximately 300 workers die every day as a result of occupational injuries. In Canada the rules concerning occupational health and safety are more stringent and public awareness is heightened, due in part to highly publicized fatalities and employer accountability for worker safety. Nonetheless, accidents and fatalities occur in workplaces in Nova Scotia.

There are many studies that have demonstrated the relationship between a person's employment status -- and the conditions within which they work -- and their health. In addition to the affects of employment per se, i.e. income, self-esteem, etc., [2] the conditions of the workplace play a major role in the health and productivity of employees. Unemployment, underemployment, poor, dangerous or stressful working conditions are all associated with poorer health. [3] The following is evidence related to employment and working conditions and health that was extracted from the "Second Report on the Health of Canadians", [4]

> "Employment has a significant effect on a person's physical, mental and social health. Paid work provides not only money, but also a sense of identity and purpose, social contacts and opportunities for personal growth. When a person loses these benefits, the results can be devastating to both the health of the individual and his or her family. Unemployed people have a reduced life expectancy and suffer significantly more health problems than people who have a job.
>
> Conditions at work (both physical and psychosocial) can have a profound effect on people's health and emotional well being.
>
> Participation in the wage economy, however, is only part of the picture. Many Canadians (especially women) spend almost as many hours engaged in unpaid work, such as doing housework and caring for children or older relatives. When these two workloads are combined on an ongoing basis and little or no support is offered, an individual's level of stress and job satisfaction is bound to suffer.
>
> Between 1991 and 1995, the proportion of Canadian workers who were "very satisfied" with their work declined, and was more pronounced among female workers, dropping from 58% to 49%. Reported levels of work stress followed the same pattern. In the 1996–97 National Population Health survey (NPHS), more women reported high work stress levels than men in every age category. Women aged 20 to 24 were almost three times as likely to report high work stress than the average Canadian worker."

Mental health issues in the workplace have recently taken on a new prominence in discussions regarding the health of Canadian workers. In a Report entitled, "The Unheralded Business Crisis in Canada -- Depression at Work" [5] the growing problem of depression in the workplace is detailed. It is estimated that three million Canadians suffer from the disease and the impact of this on the economy and the lives of workers and their families is significant. Statistically tracking the incidence and prevalence of mental health problems in the workplace is formidable and this presents a significant challenge to employers and policy makers.

New challenges for the Canadian worker will continue to emerge as our society undergoes changes in technology, changes in economic conditions and new threats from potential life-threatening or debilitating illnesses as a result of bio-terrorism, infectious disease -- e.g.

Severe Acute Respiratory Syndrome (SARS)-- and mental disorders related to workplace stress and excessive production demands.

1.1 A Brief Comment on Sources of Data

In preparing this report it became apparent that there are ample data sources regarding indicators related to employment, income and workplace injuries. It should be noted that many of the indicators contained in this Report present statistics that need to be interpreted in context and in consideration of other related indicators. In some instances, for example those indicators cited in *Section 6.0 Indicators That Need to be Developed,* it is clear that there are indicators related to the health of workers in Nova Scotia that need to be addressed in terms of identifying and defining valid and reliable sources of data.

2.0 Membership

The following individuals served as members of the Employment and Working Conditions Committee either as volunteers or as representatives of their organizations:

Harry Churchill (Chair), Provincial Health Council Member
Gail Bruhm, Executive Director, Family Caregivers Association of Nova Scotia
John Dow, Executive Director, Provincial Health Council
Vivian Farrell, Provincial Health Council Member
Jim Gordon, Nova Scotia Department of Environment and Labour
Mildred Noiles, Provincial Health Council Member
Catherine Randall, Chair , Provincial Health Council
Enid Stout, Occupational Health and Safety Consultant
Peter Vaughan, Worker's Compensation Board
David Mercer, Researcher/Analyst, Provincial Health Council
Victor Maddalena, Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix One - Key Determinants of Health*) and it was through this initiative that the Employment and Working Conditions Committee was formed. The development of a set of indicators for this determinant of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. The Terms of Reference of the Employment and Working Conditions Committee are described in *Appendix Two - Terms of Reference Employment and Working Conditions Committee.*

Specifically the objectives of the Employment and Working Conditions Committee were to:

Develop and recommend 10-12 indicators related to Employment and Working Conditions that could be incorporated into the Life Cycle Review process. The objective of the Life Cycle Review Process is to produce "user friendly" reports on the health of Nova Scotians, using the broad determinants of health as a framework.

The indicators (approx. 10 key indicators) identified by the Committee should be "user friendly" so they can be easily understood and interpreted by the general public, the media and politicians. The purpose of identifying these indicators is to serve as an education tool for communities interested in encouraging change in health, social and economic policy. Some indicators could have more than one measure, or statistic to describe the indicator.

Advise government on the benefits of developing public policy that promotes social justice, equality, and promotes the development of social capital. Social capital is defined as the level of interconnectedness of people with their community and is characterized by active citizen participation in public affairs, the goal of pursuing the public good (as opposed to pursuing individual goals), tolerance, trust and cooperation. [6] For example the government should be aware of the impact of social policy related to Employment and Working Conditions or cultural issues have on the health of the public, both positive and negative. It is recognized that healthy public policy can also be good for the economy and for the social well being of the public.

In summary, the Committee was mandated to provide the public and government -- through Council -- with information through selected indicators to initiate constructive change to policies that impact on Employment and Working Conditions.

4.0 Framework for Developing Indicators

The Employment and Working Conditions Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review the scientific, academic, economic and social literature and other national and provincial reports for health indicators related to Employment and Working Conditions. In addition, and where appropriate, there was consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See *Appendix Three – Criteria for Selection of Indicators*);
3. Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, source, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible indicators that are currently available.

6.0 Recommended Indicators

6.1 Worklife Balance

Definition Number of full-time workers who worked in excess of 41 hours per week.

Source Household longitudinal component of the 1994/95 and 1996/97 cycles of the National Population Health Survey, Statistics Canada.

Rationale Research has demonstrated that both men and women whose work schedules involve working long hours (in excess of 40 hours per week) show an increased likelihood of engaging in poorer personal health habits including, increased alcohol and tobacco consumption, compared with workers who worked 40 hours per week or less. Men who reported working long hours also had a greater likelihood of unhealthy weight gain, compared with those who worked fewer hours. Women who worked in excess of 40 hours per week demonstrated an increased likelihood of increased alcohol consumption and an increased propensity to experience depression, compared with women who worked 40 hours or less per week. The likelihood of a negative effect from working long hours increased with duration of time of working in excess of 40 hours per week. [7]

Limitations No specific limitations.

6.2 Average Income

Definition
1. Average Income Per Tax Filer, All Income Sources;
2. Average Weekly Wages and Salaries by Industrial Aggregate and Selected Industries, Nova Scotia, 2001
3. Income by all Sources of Revenue

Source N.S. Department of Finance, Statistical Summary

Rationale There is a significant body of literature to support the view that a person's income is probably the single greatest determinant of their health. [8] [9] Throughout the life cycle there is a strong relationship between income levels and health. There is a positive relationship between income and health, in short -- the greater the average income the better the health of the individual. Increases in income at the lower levels of the salary scale demonstrate greater improvement in health while increases in income at the higher end of the income scale are not as significant.[10] This relationship holds true for individuals, families, provinces and nations. This is a particularly important indicator when examining the impact of income on specific categories, for example, families, children and people of different ages and gender.

Limitations This measure is specifically intended to measure average income. Income levels and the affect of income by source are dealt with in the Final Report of the Income and Social Status Committee. This indicator does not provide information regarding the work performed by unpaid employment that would encompass the labor provided by, for example homemakers, or unpaid caregivers in the home. Ideally, this indicator needs to be interpreted in concert with other measures.

6.3 Disability Claims

Definition

1. Disability tax credit claims by adults with disabilities, by sex and age groups, N.S.
2. Population aged 15 and over with a disability, by nature of disability

Source

1. Disability Tax Credit claims by adults with disabilities, by sex and age groups, Nova Scotia 2001 http://www.statcan.ca/english/freepub/89-581-XIE/tables/t12_4.htm
2. Population aged 15 and over with a disability, by nature of disability http://www.statcan.ca/english.Pgdb.health12a.htm
3. Workers Compensation Board Annual Reports -- Time Loss Claims.

Rationale Disability affects an individual's health in a variety of ways. With short term disability people must cope with the injury that caused the disability, the potential for progression of their disability and the loss of ability to work, the loss of self-esteem related to being injured and incapacitated and the loss of income. In addition there is the impact that an individual's injury has on their family's well being and the longer one is disabled, the more difficult is their transition to returning to work. In the case of long term or permanent disability the impact on health is more pronounced. The more severe and incapacitating the disability the greater the impact on the health of the individual and their family.

Limitations This information needs to be interpreted with caution. Not all disabilities are work related. Severity of injury needs to be considered.

6.4 Employment Status

Definition

Unemployment Rate The unemployment rate is defined as that proportion of the labor force who did not have a job during the reference period, for youth age 15-24 and for the total population age 15 and over.

Employment Rate: Full time employment as a percentage of the population by age and gender.

Participation Rates: Labour force as a percentage of population 15 years of age and over.

Part-time/Seasonal: Part-time or casual employment as a percentage of the population.

Self-Employment: Those who are self-employed.

Source

1. Nova Scotia Department of Finance,
2. Statistics Canada "Seasonal Employment" Cat. No. 71F0004XCB Historic Labour Force,
3. Statistics Canada, Cat. No. 71-001, Monthly Labour Force Statistics Release.
4. Statistics Canada, Self Employment, Catalogue No. 89F0133XIE.

Rationale

Traditional presentation and analysis of employment statistics are generally done by means of the unemployment rate. While the unemployment rate is a traditional measure of the health of the economy, it also indicates the social and economic status of groups within society. However, the unemployment rate alone does not capture those individuals who have been unemployed for more than 12 months and those who are self-employed or independent entrepreneurs. The unemployment rate measures people age 18 to 64 looking for work. People not included in these figures include people under 18 and over age 65 looking for work, farmers, self-employed or whose Employment Insurance benefits expire.

It is generally understood that unemployment is detrimental to health – of individuals, their families, and their communities -- but the full picture of employment related issues can be more fully explored by presenting and comparing a variety of measures. Each of the four measures presented, unemployment rate, employment rate, participation rate, part-time seasonal employment and self-employment tells a different story.

There is a significant body of literature to support the view that meaningful, productive, gainful employment is a critical determinant of health. Loss of employment, lack of employment, under-employment, and even having too much employment (i.e. overwork) can be detrimental to an individual's health status. A lack of meaningful employment often means more than just a low income, but it can also lead to poor self-esteem and lower social status in a community. A lack of meaningful employment can also contribute to social and economic exclusion.

Standard presentation of unemployment statistics do not capture a complete picture of the status of self-employed workers, workers in resource based industries for example, farmers or fishers, those who are homemakers, those under the age of fifteen or those who are no longer looking for work. Furthermore, unemployment statistics, while seasonally adjusted, do not reflect the cycles of seasonal employment common in rural economies and resource and tourism based industries. Full time employment as a percentage of the population provides a different perspective on employment by showing the level of full-time employment among those who are in the work force.

Limitations These measures need to be interpreted with caution and should not be presented in isolation from the other measures that portray other dimensions of income and labour statistics.

6.5 Workplace Stress

Definition The Canadian Centre for Occupational Health and Safety defines workplace stress as, "...the harmful physical and emotional responses that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands. In general, the combination of high demands in a job and a low amount of control over the situation can lead to stress." [11]

Source 1. Statistics Canada: "Stress and Well-being" http://www.statcan.ca/english/IPS/Data/82-003-XPE20000035626.htm
2. National Population Health Survey Supplements. http://statcan.ca/english/IPS/Data/82M0018SDB.htm

Rationale Typical sources of stress in the workplace are for example, fear of layoff or job redundancy due to uncertain economic conditions, increased workload demands, poor management or labour-management practices, or general disempowerment of employees. Symptoms of workplace stress are employee dissatisfaction, employee turnover, reduced efficiency, absenteeism, low productivity, workplace fatalities, disability, substance abuse, poor staff relations, indifference and apathy. [12]

Workplace stress can lead to poor health. People generally accept a degree of stress in the workplace as "normal". Longer-term exposure to workplace stress can have detrimental affects on the health of employees. The risk of adverse health outcomes rises with increased exposure to stress and the response is highly individual; some people can tolerate higher levels of stress without adverse effects. The human body's response to stress is well documented and is generally characterized by the following symptoms:

- increased blood pressure
- increased metabolism (e.g., faster heartbeat, faster respiration)
- decrease in protein synthesis, intestinal movement (digestion), immune and allergic response systems
- increased cholesterol and fatty acids in blood for energy production systems
- localized inflammation (redness, swelling, heat and pain)
- faster blood clotting
- increased production of blood sugar for energy
- increased stomach acids

(Source: http://www.ccohs.ca/oshanswers/psychosocial/stress.html)

Limitations Measuring the concept of "workplace stress" is highly contextual and requires both a qualitative and quantitative approach to data collection and analysis.

6.6 Absenteeism

Definition Days lost per worker (male/female) due to illness or disability.

Source a) Days lost per worker due to illness or disability, by sex, Canada and provinces. http://www.statcan.ca/english/Pgdb/health47a.htm
b) Absenteeism. Workplace Health Systems, 1998, #3, Health Canada.

Rationale "In 1990, almost one in five workers missed over one week of work as a result of sickness, injury, or disability. One-third of these employees, or 6% of all workers, missed in excess of five weeks away from work. In addition to the reduced quality of life experienced by these employees, absenteeism impacts the productivity of Canadian business and, by extension, Canada's Gross Domestic Product. Replacement labour is used about 75% as effectively, leading to reduced productivity. Indeed, employers view higher productivity and lower absenteeism as two of the key benefits of health promotion programs at work." [13]

There is a strong relationship between workplace health and absenteeism. In workplaces that are unsafe, or stressful or where workload demands are excessive there is a greater propensity to experience absenteeism. People who work in health care are 1.5 times more likely to be absent from work because of illness and disability than workers in other sectors (CIHI 2001).

Limitations No specific limitations.

6.7 Workplace Injury and Mortality

Definition
1. Annual Average WCB Claims Registered/100 employees (5 Year Average)
2. Number of Compensable Time-Loss Claims Registered
3. Workplace Mortality
4. Disability Days - defined as the proportion of the population who stayed in bed or cut down on normal activities because of illness of injury on one or more days in the past two weeks.

Source
(1 & 2) Nova Scotia Workers Compensation Board, Annual Reports, Statistics.
(3) Workplace Mortality - N.S. Department of Environment and Labour
(4) Disability Days -- National Population Health Survey, StatsCan.

Rationale Injuries to workers can have widespread effects on the worker, their family, fellow employees, the employer, and the economy in general. Creating safe and injury free workplaces must be the highest priority for workers and employers. In Nova Scotia in 2001 Workers Compensation Board statistics indicate that there were 34,701 claims registered. While many of these claims were very minor, many were more serious and resulted in permanent disability. The N.S. Department of Environment and Labour defines a reportable "bodily injury" as, "...unconsciousness, substantial blood loss, fracture of an arm or leg, amputation of a leg, arm, hand or foot, burns to a major part of the body, loss of sight in an eye or any injury that places life in jeopardy. " [14]

Limitations This data needs to be interpreted with caution. This data does not include self-employed individuals in statistics. Workers Compensation covers 92% of all employees. Workers Compensation does not cover individuals in financial and banking sectors.

6.8 Control over Working Conditions

Definition	Decision Latitude at Work, by sex, household population aged 15 to 74 currently employed, Canada and provinces.
Source	National Population Health Survey (NPHS) Health Indicators December 2001, #3, Cat. No. 82-221-XIE
Rationale	Research conducted primarily by British researcher Dr. M. G. Marmot examining the health of British Civil Servants in what is referred to as the Whitehall II studies demonstrates a correlation between decision-latitude at work and health. [15] Those individuals who had a high degree of decision-latitude in work settings experience better health and those who had lesser amounts of decision-latitude had poorer health. Eventually they concluded that the difference was the issue of "control of destiny"; the lower down you are in social class standing in an organization, the less opportunity you have to influence the events that direct your worklife, and this has the effect of being a source of chronic stress.
Limitations	No specific limitations. NPHS data is collected every four years.

7.0 Indicators that Need to be Developed

7.1 Family Caregiving

There is evidence that there are increasing numbers of people -- seniors, people with disabilities, people with brain injuries, or children with developmental disorders -- who are being cared for by family members in their own homes and in the community. There are several reasons for this phenomenon including funding reductions in social programming and a general lack of acknowledgement of the nature and scope of the problem. This situation has contributed to a lack of policy action. In the past ten years as a result of funding reductions to the health care system there has been an increasing trend towards day surgery and early discharge programs from hospitals. The bulk of post-hospital care, and chronic care falls upon the shoulders of family caregivers, predominately women. In addition, in Nova Scotia there is a lack of support services for people requiring long term and chronic care, and placements for disabled, or brain injured individuals.

There are no sources for valid and reliable statistics that measure the amount of care given in the home. Part of the problem is defining "care giving" and discerning what is normal family care giving responsibilities and what is above and beyond normal family duties. There is a need to develop accurate ways of defining, identifying and measuring the care given to family members in the home. There is also a need to develop a respite and palliative care strategy.

Statistics Canada has produced two reports that address different aspects of family caregiving.

1. National Survey of Giving, Volunteering and Participating in 1997 and 2000.
2. Elder care in Canada: Context, Content and Consequences. Cat. No. 89-570-XPE

There remain many unanswered questions and further study and data collection regarding the issues of family caregiving as it relates to employment and working conditions. There is a need to identify and collect data in Nova Scotia regarding the extent and impact of family caregiving on the health of individuals.

7.2 Workplace Violence

There are as many and varied definitions of workplace violence as there are workplaces. In its simplest form workplace violence is any form of violence or threat of violence that takes place in a person's workplace.

For the purposes of this Report the following definition of workplace violence will be employed: "It is any act in which a person is abused, threatened, intimidated or assaulted in his or her employment. Workplace violence includes:

- Threatening behaviour - such as shaking fists, destroying property or throwing objects.
- Verbal or written threats - any expression of an intent to inflict harm.
- Harassment - any behaviour that demeans, embarrasses, humiliates, annoys, alarms or verbally abuses a person and that is known or would be expected to be unwelcome. This includes words, gestures, intimidation, bullying, or other inappropriate activities.
- Verbal abuse - swearing, insults or condescending language.
- Physical attacks - hitting, shoving, pushing or kicking.

Workplace violence is not limited to incidents that occur within a traditional workplace. Work-related violence can occur at off-site business-related functions (conferences, trade shows), at social events related to work, in clients' homes or away from work but resulting from work (a threatening telephone call to your home from a client)." [16]

The issue of workplace violence is a significant issue in Canada and Nova Scotia. The following is an excerpt from the Canadian Initiative on Workplace Violence and it clearly details the extent of the problem in Canada,

> "Research funded by the International Labour Organization (ILO) in 1996 suggests that Canada ranks high in the world of workplace violence, in the form of assaults

> and sexual harassment. The ILO survey interviewed more than 2,000 Canadian employees. The findings indicate that 9.7% of women surveyed said they had been victims of "sexual incidents" while on the job. As well, 5% of women and 3.9% of men reported being assaulted at work. Assault, in addition to physical violence, included various forms of threats and bullying, whereas "sexual incidents" ranged from leering, and sexual innuendo, to rape in the extreme. Research findings such as these only support the growing evidence that suggest women specifically, face increased risks of violence while on the job.
>
> According to the Ontario Human Rights Commission, sexual harassment, since 1991, has been the fastest growing area of complains in Ontario. As Keith Norton, then Chief Commissioner, so poignantly pointed out when commenting on the tragic death of Theresa Vince at the hands of her manager, "this tragic event shows that sexual harassment can and does lead to violence. Every sector in society has a responsibility for preventing sexual harassment and the Commission has a special role to play because of its legislative mandate in this area.
>
> Clearly, from available data, Canada should be vigilant about this emerging and troubling problem. To believe workplace violence is only a US phenomenon is to risk the wellbeing and safety of Canadian workers. Although, workplace violence may not be epidemic, we should be concerned about it prevalence in Canada." [17]

Unfortunately, because there are so many different definitions and because reporting of such incidents are inconsistent there are no valid and reliable data sources available.

7.3 Cost of Disability

In 2001 there were 3.6 million Canadians --1 in 8 --with disabilities, according to Statistics Canada. In Nova Scotia in June 2002 there were 22,379 people with disabilities receiving $16,705,500 in government funded income security payments. [18] There are difficulties for defining the concept of "disability" because they are individualistic and personal capacities to deal with disability differ among individuals.

> "Disabilities vary widely in their cause, duration and effect on a person's life. Some people have more than one disability. In many cases it is societal barriers --for instance, inadequate transportation or lack of modifications in the home -- that create limitations for persons with disabilities. Some Canadians with severe disabilities can participate fully in society, but some with much milder disabilities cannot because of these barriers. Persons with disabilities face significant obstacles in education, employment and income, as well as challenges in transportation, communication and accessibility." [19]

Human Resources Development Canada has examined the issues of evaluating the cost of disability and the results are unclear. They conclude that, "More research is needed to identify clearly the full range of direct and indirect costs of disability, which in turn will permit more meaningful determination of the cost-effectiveness of various programs and measures. The fact that benefits from program measures and expenditures may accrue in different cost centres is one of the biggest obstacles to systemic change. Disability management interventions have sometimes failed to obtain the support of senior management and human resource officials, despite an impressive return on investment, because expenditure reductions accrue to programs other than those that incur the cost." [20]

There is no doubt that the cost of disabilities is significant for individuals, their families, industry and governments. There is a need to develop better ways to measure, evaluate and estimate the costs of disabilities to the economy and to develop more effective programs to support those who have disabilities.

7.4 Access To Employee Benefits

A study conducted by Statistics Canada in 1999 [21] showed that approximately half of all employees in Canada had access to "...employer-sponsored medical, dental or life/disability insurance coverage." Forty three percent of the population surveyed had access to employer sponsored pension plans. The study also found that "workers in unionized jobs were almost twice as likely as their non-unionized counterparts to be covered in each of the three plans. For example, 84% of unionized employees reported having an extended medical plan, compared with only 45% of non-unionized employees."

Lack of access to employee benefits impacts on the health and well being of individuals. There are many obvious benefits for employees and their families who have access to extended medical benefits, disability or dental services. For many workers, for example those in low paying jobs, casual, part-time or seasonal employees and those workers who are self-employed for example those who work in agriculture, fisheries and other resource industries do not, as a rule, have access to employee benefits. In addition unpaid workers, for example family caregivers, do not have access to employee benefits. There have been very few studies conducted in this area, but the implications for workers who do not have access to employee benefits is significant.

There is a need to identify and collect information related to the issue of worker's access to employee benefits.

Endnotes

[1] Source: Extract from a speech given by Mr. Justice K. Peter Richard, Supreme Court of Nova Scotia. Entitled, "The Westray Mine Explosion - Aftermath". Paper presented to the 1999 Congress on Medical-Legal Aspect of Work Injuries. http://www.iwh.on.ca/Pages/99/Papers/P_1B6_1.html

[2] See Provincial Health Council Final Report of the Income and Social Status Committee for a full description of the relationship between income and health.

[3] http://www.hc-sc.gc.ca/hppb/phdd/determinants/determinants.html# employment

[4] Federal, Provincial and Territorial Advisory Committee on Population Health (1999). Toward a Healthy Future: Second Report on the Health of Canadians. Cat. No. H39-468/1999E.

[5] Business and Economic Roundtable on Mental Health, July 20, 2000. The Unheralded Business Crisis in Canada: Depression at Work. GPC Canada.

[6] Veenstra, G. & Lomas, J. (June 1996). Home is Where the Governing Is: Social Capital and Regional Health Governance. McMaster University Centre for Health Economics and Policy Analysis. Working Paper C96-1.

[7] Source: Long Working Hours and Health. Health Reports, Autumn 1999, Vol. 11, No. 2 Statistics Canada, Catalogue 82-003.

[8] Evans, R.G., Barer, M.L. & Marmor, T.R. (1994). Why Are Some People Healthy and Others Not? The Determinants of Health of Populations. New York: Aldine de Gruyter.

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[10] Duncan, G.J. (1996). Income Dynamics and Health. International Journal of Health Services, 26(3), 419-444.

[11] Source: http://www.ccohs.ca/oshanswers/psychosocial/stress.html

[12] Source: Canadian Mental Health Association, "Sources of Workplace Stress"

[13] Source: Absenteeism. Workplace Health Systems, 1998, # 3, Health Canada.)

[14] Source: http://www.gov.ns.ca/enla/ohs/accident.htm

[15] Marmot, M.G. (1997). Contribution of Job Control and Other Risk Factors to Social Variations in Coronary Heart Disease Incidence Lancet, 350: 235-39

[16] Source: Canadian Centre for Occupational Health and Safety,
http://www.ccohs.ca/oshanswers/psychosocial/violence.html

[17] http://www.workplaceviolence.ca/service/questions.html# ans2

[18] Nova Scotia Department of Finance Statistical Summary, 2002.

[19] Source: Human Resources Development Canada. http://www.hrdc-drhc.gc.ca/hrib/sdd-dds/odi/documents/AIPD/FDRSummary002.shtml

[20] http://www11.hrdc-drhc.gc.ca/pls/edd/DPP_150009.htm

[21] August 1999 Perspectives on Labour and Income
http://www.statcan.ca/Daily/English/020829/d020829j.htm

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Chapter 6
Social Environments

1.0 Introduction

At first glance, the determinant "Social Environments" may seem to refer to the same set of social relationships as "Social Support Networks". This, however, is not the case. Social Environments, while emphasizing the bonds between individuals, is broader and more extensive than Social Support Networks. While Social Support networks are limited by definition to the bonds between family members and in communities, Social Environments refers to the broader society in which an individual lives, works, plays and participates in a community or family setting.

The influence of society is pervasive and often invisible, which makes it difficult to develop indicators that define 'society' in a useful sense. The difficulty arises from the fact that we, as individuals, are deeply embedded in the societies in which we are born. The common ebb and flow of social life can, for the most part, become a sort of background noise that affects us in more profound ways than we may realize. The inability or unwillingness to step back and observe from a point outside society means it is difficult to see how the society affects us, for good or ill.

Different societies have different priorities. Japanese society and its emphasis on success through hard work, has led to a phenomenon referred to as 'death by overwork', or *Karoshi*. While working conditions clearly play a role in the health of individuals, it is doubtful that North American society would create a workplace culture that would allow such an event to become commonplace.

There are many measures of the 'health' of a society, most of which measure levels of social cohesion, or the degree to which members of a society feel connected to each other, and the level at which they feel a part of a society's institutions, systems of morality and norms. A 1997 study, *Measuring Social Well-Being: An Index of Social Health for Canada*, developed a set of indicators that touched on several social issues, such as health, morality, inequality and access to services[1].

One of the most common measures of the stability or cohesion of a society is the crime rate. A rising crime rate will often be indicative of difficult economic and social conditions. Interestingly, while crime rates in Canada have been steadily declining for some time, the perception exists that crime is rampant in our society[2]. A fear of crime leads to feelings of insecurity, with the subjective perception of high rates of crime fuelling a sense of isolation, which can also be a result of economic hardship. The physical costs of social isolation are high, with a broad range of illnesses now being conclusively linked to isolation or disconnection from society.[3]

Another measure of the health of a society is the level of inequality between the highest- and lowest-income earners. It has been proven time and again that income is one of the most important factors determining the health of individuals. It has been demonstrated that in order to have a healthy society, you must have a society that places a premium on social justice and equality, not only in terms of finances but in other ways as well[4]. Until there is a clear recognition and action by government of the effects of socioeconomic factors on health, we will always be treating symptoms rather than creating an effective cure.

2.0 Committee Membership

The following individuals served as members of the Social Environments Committee either as volunteers or as representatives of their organizations:

Tom Bird, Committee Chair, Provincial Health Council Member
Mildred Noiles, Provincial Health Council Member
Catherine Randall, Chair of Provincial Health Council
John Dow, Executive Director, Provincial Health Council
Ken Brown, Group of IX
Martin Hickey, Halifax Peninsula Community Health Board
Dr. Mahmood Naqvi, Provincial Health Council Member
Merek Jagielski, Volunteer Services Manager, Metropolitan Immigrant Settlement Association
Bob Fougere, Coordinator, Nova Scotia Rainbow Action Project
Rev. Dr. John Baros-Johnson, Convener, Interfaith Council
Beth Rajnovich, Support Staff, Provincial Health Council
Amy Lewis, Support Staff, Provincial Health Council
David F. Mercer, Researcher/Analyst, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix Three - Key Determinants of Health*) and it was through this initiative that the Social Environments Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals *(See Appendix Four - Nova Scotia's Health Goals*). The Terms of Reference of the Social Environments Committee are described in *Appendix Five - Terms of Reference for Social Environments Committee.*

4.0 Definition of "Social Environments"

The array of values and norms of a society influence in varying ways the health and well-being of individuals and populations. In addition, social stability, recognition of diversity, safety, good working relationships, and cohesive communities provide a supportive society that reduces or avoids many potential risks to good health. Studies have shown that low availability of emotional support and low social participation have a negative impact on health and well-being[5].

6.0 Recommended Indicators

6.1 Healthy Communities Initiatives

Definition Number of communities enacting smoke-free legislation

Sources Smoke-Free Nova Scotia (http://www.smokefreens.ca/documents/nsbylaws.htm)

Rationale Smoke-free legislation in various municipalities has a significant effect on communities, with a measurable increase in the number of smokers who quit, and a reduction in the number of young people who start smoking. These laws also create a ripple effect, greatly supporting other municipalities who have adopted, or are considering, strong smoke-free by-laws[6]. The passing of these by-laws could be an indication of the intention to create a healthier social environment in particular communities.

Limitations None known.

6.2 Infrastructure

Definition Number of schools providing community access to facilities

Source Nova Scotia Department of Education Research and Statistics/Corporate Policy – Directory of Public Schools 2002-2003.
Canadian Fitness and Lifestyle Research Institute, *2001 Survey of Physical Activity in Canadian Schools.*

Rationale While the education level of an individual or community can be an indicator of health status, in this context, schools can be seen as a potential community resource. It is becoming more common for schools to become centers of community activity after regular school hours, and the use of existing buildings and infrastructure to facilitate community participation will improve the overall health of the community as well as its members. According to the 2001 *Survey of Physical Activity in Canadian Schools,* 52% of the 263 schools in Nova Scotia responding to the survey have agreements with municipalities for shared use of facilities, and 92% allow community access to their facilities[7].

Limitations Data are limited to survey respondents, with just over half of schools contacted for the study responding.

6.3 *Community Participation and Activism*

Definition Volunteer Participation Rate – Percentage of population who provide volunteer services to charitable and non-profit organizations.

Source Canadian Heritage, Health Canada, Human Resources Development Canada, Statistics Canada, *The 2000 National Survey of Giving, Volunteering and Participating.*
GPI Atlantic, *The Economic Value of Civic and Voluntary Work in Atlantic Canada:*

2003 Update.

Rationale "Canadians who volunteer their time, energy and talents to charitable and non-profit organizations play an important role in improving their communities and the lives of others[8]." Volunteering is particularly important in the Atlantic region, since many charities and service organizations are not able to reach out into rural areas[9]. While volunteers do play a crucial role in fostering a sense of community and common values, fewer volunteers are doing more. Numbers of volunteers have declined since 1997, but the amount of hours contributed has increased. In 2000, 253,000 persons volunteered their time, contributing an average of 50.1 hours each to various causes[10]. Nova Scotia (34%) has the fifth highest rate of volunteering in Canada, after Saskatchewan (42%), Alberta (39%), Prince Edward Island (37%) and Manitoba (36%)[11].

Limitations None known.

6.4 Social Environment Education

Definition Number of students enrolled in courses designed to increase cross-cultural understanding

Source Nova Scotia Department of Education

Rationale Social Studies is a subject area designed to educate students about race relations and cultural differences. At the high school level, students can choose how to fulfill the Social Studies requirement for graduation by choosing from African Canadian Studies, Gaelic Studies, Mi'kmaq Studies, *Etudes acadiennes* or Canadian History[12]. Students in Nova Scotia require only one Social Studies course to fulfill the requirements for graduation, compared to 2 courses for Prince Edward Island and both Anglophone and Francophone students in New Brunswick[13]. Since students have the capacity to make choices regarding how they fulfill their requirements, the courses students choose and in what numbers will be illustrative of what level of interest students show in other cultures and traditions.

Limitations None known.

6.5 Safety and Security

Definition Crime rate – the number of criminal offences per 100,000 population

Source Nova Scotia Department of Justice Annual Accountability Report 2001/02.

Rationale The crime rate in Nova Scotia has remained below the national average since the year

2000. Prior to this, 1998 and 1999 showed rates that significantly exceeded the national average, with the rate in Nova Scotia for 1999 rising to 8,307 per 100,000 compared to a Canadian rate of 7,733. The crime rate is considered to be one of the most important indicators of the overall social and economic well-being of a society. Support for community-based initiatives to prevent crime is one of the ways that government contributes to the stability and health of a society[14].

Limitations None known. Detailed community crime information is available on individual Police Department websites.

6.6 Domestic Violence

Definition Number of actions directed at other members of the family unit, including spouses, siblings, children, older persons, etc. resulting in Criminal Code charges

Source NS Advisory Council on the Status of Women, *Family Violence and Personal Safety: Women in Nova Scotia – Part 3 of a Statistical Series*, 2001.
Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002.*

Rationale Violence directed against those closest to us is unacceptable in any context. Besides physical and emotional scars, victims of family violence, particularly spousal violence, are prone to physical impairments and mental health problems in higher numbers than non-victims[15]. Anger, stress, confusion and disappointment, along with lowered self-esteem, are common reactions to spousal violence that persist for a considerable period of time after the violence may have ended[16]. Rates of spousal assault against women seem to be in decline, from 13% of married women in 1993 to 8% in 1995. Despite an increase of 17% in the reporting of spousal violence in Nova Scotia between 1993 and 1999, 64% of spousal violence against women still goes unreported to authorities. Women are more than twice as likely to be the victims of spousal homicide than men[17].

Limitations Nova Scotian data are limited to figures from 1999. Some data were not reliably collected prior to this, so there is no opportunity to compare figures over time. Data are also limited to violence directed against women. Data on spousal violence directed against men, and violence in same-sex relationships, are not widely collected.

6.7 Trends in Geographic Mobility

Definition Movement of populations within Canada and the provinces.

Sources Statistics Canada 2001 Census – Population 5 years and Over by Mobility Status,

Provinces and Territories.
Statistics Canada 2001 Census – Profile of Language, Mobility and Migration, for Canada, Provinces, Territories, Census Divisions and Census Subdivisions.

Rationale Between 1996 and 2001, Nova Scotia's population declined by 0.1%, the lowest rate in the Atlantic region. The two areas that benefited most from inter-provincial migration in this period were Alberta, gaining 10.3%, and Nunavut, whose population increased by 8.1%. These movements of population have considerable effects, impacting on the labour market, social insurance, income support programs and health care, and ensuring portability of Employment Insurance and health-related benefits across Canada has proven to be challenging[18]. Within Nova Scotia, 56,135 people aged 5 years and over moved from one area of the province to another in 2001[19]. Social environments are effected by mobility, with communities losing members to larger centres, which has called into question the viability of outlying areas, and the influx of population into urban areas, taxing the infrastructure of health care, transportation and other sectors.

Limitations None known.

6.8 Charitable Organizations

Definition Number of groups classified as charitable organizations by the Canada Customs and Revenue Agency

Source Canada Customs and Revenue Agency, *List of Canadian Registered Charities,* http://www.ccra-adrc.gc.ca/tax/charities/online_listings/canreg_interim-e.html

Rationale The organizations listed in this index are those that have submitted the relevant form (T3010) to Canada Customs and Revenue requesting charitable status. The index includes a separate listing of organizations that have had their charitable status revoked in the past year. In Nova Scotia, 3,740 organizations are listed under the broad category of charitable organizations. Of these, 144 are classified as public foundations, which include groups like the Colchester Regional Hospital Foundation, 92 are private foundations like the Chester Educational Foundation, and the remaining 3,504 are charitable organizations, such as the Adolescent Health and Support Centre in Kentville. Nova Scotia has the greatest number of charitable organizations in Atlantic Canada, followed by New Brunswick (2,664), Newfoundland and Labrador (1,158) and Prince Edward Island (552)[20]. This gives Nova Scotia the highest number of charitable organizations per capita in this region. Additionally, according to the 2000 *National Survey of Giving and Volunteering*, Nova Scotians have the highest proportion of the population who give to charities (87%) of any province in Canada[21].

Limitations Although the list is comprehensive, organizations based in provinces other than Nova Scotia would not necessarily be listed. The Registry of Joint Stocks, a good source of this type of information in the past, has changed to a format that permits specific searches for known organizations only, rendering it of extremely limited use in data collection.

6.9 Linguistic Diversity/Distribution

Definition Distribution and proportion of different ethnic or language groups within the total population

Source Statistics Canada, 2001 Census – Profile of Language, Mobility and Migration, for Canada, Provinces, Territories, Census Divisions and Census Subdivisions.
Statistics Canada, 2001 Census - Profile of Citizenship, Immigration, Birthplace, Generation Status, Ethnic Origin, Visible Minorities and Aboriginal Peoples, for Canada, Provinces, Territories, Census Divisions and Census Subdivisions.

Rationale Nova Scotia's population is diverse, both in population and language. During the 1990's, Nova Scotia became home to 3% of the total immigrant population in Canada, more than any other province in the Atlantic region. In 2001, 4.6% of the population of the province were foreign-born[22]. During the 2001 Census, 10,800 Nova Scotians identified themselves as having immigrated from the United Kingdom, the single largest immigrant group. Significant numbers on people identified other places of origin, such as the United States, Germany, Lebanon and India. 17,010 people identified themselves as Aboriginal. The total visible minority population according to the 2001 census was 34,525[23]. The most prevalent languages spoken at home (other than the two official languages) were Micmac, Arabic, Chinese (Mandarin and Cantonese), German, Greek and Vietnamese[24]. Linguistic and cultural diversity enriches our province, but immigrants with a less developed grasp of the official languages may find themselves at a disadvantage in accessing necessary services. Cultural differences may also contribute to differential accessing of health care and other resources. In the year 2000, most immigrants to Canada were at a financial disadvantage, having 2.5 times the low-income rate of the Canadian-born, regardless of education level, ability to speak an official language, or source region[25].

Limitations None known.

6.10 Support for Cultural Activities

Definition Amount and source of government expenditures on culture

Source Statistics Canada, "Government Expenditures on Culture 2000/01", *The Daily*, August 1, 2003.

Rationale Government spending on culture reached a record high in Canada in 2000/01, representing 1.7% of the federal budget, or $3 billion. In Nova Scotia, that works out to $95 per capita, close to the national average. The provincial government spent $64 per capita, and municipal governments contributed an average of $39 province-wide. Although the federal figure represents a record high level of expenditure, Nova Scotia led the country with the highest provincial decrease in spending from the previous year, at -11.4%. Government expenditures on culture are distributed to such institutions as libraries and cultural heritage institutions, with other amounts going to performing and visual arts, museums and archives. Federal expenditure is responsible for such cultural assets as national parks and historic sites[26]. The level of expenditure on cultural activities could indicate the value placed on culture by society, and its' level of interest in creativity and heritage.

Limitations None known.

7.0 Indicators that Need to be Developed

7.1 Level of participation in community activities

According to the 2000 National Survey of Giving, Volunteering and Participating, Canadians "support each other and their communities by joining non-profit groups and organizations, participating in their activities, keeping informed about news and current affairs, and express their political preferences through voting[27]." Through pursuing common interests, community members form strong social bonds, promoting interpersonal trust and creating a foundation for community action. Data is limited for Nova Scotia, with most information being presented on a Canada-wide basis. More information should be provided on levels of community participation in Nova Scotia, including information on voting in municipal elections, which is not currently collected. Existing information gives detail on volunteering, but omits information on participation in community activities such as cultural events.

Endnotes

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Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 7
Physical Environments

1.01 Introduction

Stewardship of the environment is a common theme in the media and in everyday public discourse. Increasingly there are signs that humans are having an impact on the environment and this is being translated into ill health in people, animals and plant life. There are however, differing opinions and viewpoints regarding the interpretation of scientific information and, in the case of the physical environment, much of the debate focuses on the extent and impact that pollution has on humans. While the effects of environmental degradation are clear, public policy to remedy the situation remains elusive.

This Report formally presents the indicators recommended by the Physical Environment Committee. The limited selection of environmental indicators presented in this Report represents a broad cross-section of indicators that are, in the opinion of the Committee, measures of the health of the environment. Furthermore, these indicators demonstrate the impact of the environment on the health of humans, animals and plant life.

It is important for readers of this Report to recognize that every indicator has a story to tell. Careful interpretation of the information is required and should form part of a larger debate about environmental stewardship and healthy public policy. Some of these concerns are described in the Rationale and Limitations for each of the indicators described. The Committee has made every attempt to only include indicators that are both scientifically valid and reliable measures of some aspect of the health of the environment.

The Committee faced many challenges in identifying environmental issues of concern and it is instructive to describe some of those challenges in some detail. To begin, there were many environmental issues for the Committee to consider. In addition to the indicators that are included in this Report there were other areas that were deemed important to our understanding of the environment, but either the data sources were simply not available or the "scientific jury" was undecided regarding the cause and effect relationship. For example, there is still some disagreement among scientists regarding low level exposure to environmental toxins and cancers in children. Another example is the increasing number of individuals who suffer from environmental illness or chemical sensitivity. For a long time the medical and scientific literature was undecided whether in fact this disease phenomenon existed and in cases where it has been deemed to exist there are differing opinions as to the cause and treatment. This skepticism occurred while many people were suffering from the disease with minimal help being offered from the medical community. Having said that, it is worthwhile noting that at the time of writing this Report the Canadian Medical Association Journal is publishing the first of a four part series on Environmental Illness.[1] Progress has been slow in trying to acknowledge and understand this debilitating and elusive disease phenomenon.

Among those concerned with environmental issues, there is also considerable debate regarding the agricultural and food industries, the production and storage of food, and the impact on human health. Genetically modified foods (plant and animal), the use of antibiotics and hormones in livestock, chemical fertilizers, irradiation of food for the purposes of preservation, pesticides and herbicides are just a few of the issues that have been hotly debated regarding their potential impact on human health.

There are environmental problems that are both difficult to define and even more difficult to gather statistics to accurately describe the problem. An example of this would be poor indoor air quality. There is no doubt poor indoor air quality can lead to ill health. News reports regarding school closures due to poor air quality are now commonplace. In addition, the air in private homes, businesses, schools or other public buildings can be a source of illness because of airborne dust, molds, fungi, cigarette smoke, or other pollutants including fragrances from cleaning products, soaps and air fresheners. The problems these pollutants cause can be significant, but these types of measures are difficult to define and quantify. There are simply no comprehensive sources of data to accurately report on these problems, other than on an anecdotal basis.

The Committee believes that in the presence of uncertainty decision-makers should adopt the "precautionary principle" when considering the environmental issues; in other words, when in doubt, err on the side of protecting the public. As noted above, in the course of conducting its work the Committee noted many instances when the cause and effect link between environmental degradation and human health are tenuous or merely circumstantial. In other cases the "scientific jury" remains undecided regarding the causal link between the state of the environment and its impact on human health. When there is anecdotal, circumstantial or common sense reasons to believe the physical environment is having an ill effect on human health then the Committee believes the precautionary principle should be adopted as a "first principle" when considering the environment and its potential impact on human health.

The Committee acknowledges that it would be impossible to present every indicator and measure on the subject of the health of the physical environment. Instead, a selection of broad measures, widely accepted by the scientific community as being valid, and with data sources that are easily accessible and reliable were selected. It is hoped that the indicators can serve the purpose of educating the public, media and politicians on the relationship between a healthy environment and a healthy population. Furthermore, it is hoped the indicators contained in this report can serve as a starting point for an informed public debate on the need to develop policies that promote stewardship of the environment as a public resource for present and future generations.

As the Committee conducted its work, it became increasingly clear that stewardship of the environment goes beyond consideration of specific environmental policies but also includes the decisions made by individuals, businesses and governments in every aspect of their activity. For example, every decision that is made by government can be subjected to an environmental impact analysis that measures the impact that a decision will have on the environment, even though it may not directly affect the physical environment in Nova Scotia. We are inseparable from the physical environment within which we exist. There is an interconnectedness that exists between the decisions we make and the effect that those decisions will have on the physical environment and human health. Therefore it is important that individuals, industry and governments acknowledge this interconnectedness and assume the responsibility for stewardship of the environment.

The Committee strongly believes that good environmental policy is good for the health of the population and furthermore, it is also good for the fiscal and economic health of Nova Scotia. Environmental security is directly tied to economic security and vice-versa. This economic benefit can be accomplished in many ways. First, environmental policy that puts the health and safety of the public first will promote health and foster a productive workforce and in turn this is good for economic development and personal well-being. Second, a long term vision for stewardship of the environment will permit the sustainable use of natural resources that is congruous with the economic well being of the province and the health of its people. Finally, in evaluating the economic costs of good environmental policy, it is also necessary to evaluate the cost -- in human and financial terms -- of not implementing policies that protect the environment and natural resources of the province.

2.0 Committee Membership

The following individuals served as members of the Physical Environment Committee:

Harry Churchill (Chair) – Board Member, Provincial Health Council
Tom Bird, Board Member and Vice-Chair, Provincial Health Council
John Dow, Executive Director, Provincial Health Council
Vivian Farrell, Board Member and Chair, Provincial Health Council.
Barbara Hart, Volunteer and Past-Chair, Provincial Health Council
Peggy Hope-Simpson, Community Volunteer (EKM Community Health Centre)
Bob Langdon, Nova Scotia Department of Environment and Labour
Murray MacGray, Nova Scotia Technology and Science Secretariat
Alan Ruffman, Community Volunteer (GeoMarine Associates)
Victor Maddalena, Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix One - Key Determinants of Health*) and it was through this initiative that the Physical Environment Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. For the purposes of this Report, the Committee decided that some indicators could have more than one measure, or statistic to describe the indicator. The Terms of Reference of the Physical Environment Committee are described in *Appendix Two - Terms of Reference Physical Environment Committee.*

Specifically the objectives of the Physical Environment Committee were to:

- Develop and recommend environmental indicators that could be incorporated into a Report Card to the public on health issues in Nova Scotia. These indicators (approx. 10 key indicators) on the state of the environment should be "user friendly" so they can be understood by the public, the media and politicians. The purpose of identifying these indicators is to serve as an education tool for communities interested in encouraging change in environmental policy;

- Advise government on the benefits of developing public policy that is friendly to the environment. For example the government should be aware of the impact environmental policy can have on the health of the public, both positive and negative. It is recognized that good environmental policy can also be good for the economy and for the health of the public.

In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive change to environmental policy.

4.0 Framework for Developing Indicators

The Physical Environment Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review the scientific literature and other national and provincial reports for health indicators related to the environment. In addition there was consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See *Appendix Three – Criteria for Selection of Indicators*);
3. Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible environmental indicators that are currently available.

6.0 Recommended Indicators

The physical environment has both a direct and an indirect impact on the health of individuals. The physical environment encompasses a wide variety of places for example, private homes, places of work, learning environments, agricultural lands and recreational areas including the forests, shorelines and oceans surrounding Nova Scotia. Pollution and environmental degradation in communities can be manifested in the form of poor air quality and poor quality drinking water, chemical or other forms of food contamination, destruction or depletion of natural resources, and these in isolation or combined can either directly or indirectly can have a detrimental impact on health. In addition, poor environmental standards in the workplace may expose workers to potential risks from hazardous condition, exposure to harmful physical or chemical risk factors.

6.1 Air Quality Indicators

In some parts of Nova Scotia air pollution is a significant problem. While there are many sources and types of air pollutants the three main components that are particularly harmful to humans: fine particulate matter, ground level ozone and sulfur dioxide.

High levels of air pollution in general contribute to higher levels of respiratory morbidity, in particular asthma and even mortality[2] [3] [4] Air pollution includes smog, carbon monoxide, particulate matter, ozone and other airborne toxins and allergens including pollens. The health effects of air pollution may be observed for several days after peak exposures, and detectable for up to several weeks after substantial air pollution episodes. At relevant concentrations the mortality dose response relationship is essentially linear, with increases seen even with very low exposures.

The Nova Scotia Department of Environment and Labour gather data on air quality from a number of different sites in the Province, primarily industrialized areas. Monitoring sites are generally located in the more populated communities where air quality is a concern. Specific compounds are monitored depending on the location. Specifically, the following compounds are monitored in the following areas:

- § **Downtown Halifax** – ozone, sulfur dioxide, nitrogen oxides, carbon monoxide, total suspended particulate, PM 10, PM 2.5 and volatile organic compounds;
- § **Dartmouth** – sulfur dioxide, particulate matter;
- § **Sydney** – Sulfur dioxide, ozone, total suspended particulate matter and PM 2.5
- § **Port Hawkesbury** – Sulfur dioxide;
- § **Pictou** – ozone, total reduced sulfur;
- § **Aylesford Mountain** – ozone.

This data set is maintained by the Department of Environment and Labour and is comparable across sites in Nova Scotia and across Canada. The information is collected and archived in a manner that will permit comparisons to other provincial jurisdictions. The data are also available historically. Nova Scotia also has access to the data from two Environment Canada monitoring sites:

§ **Dayton, Yarmouth County** - Ozone
§ **Kejimkujik National Park** - Ozone and PM 2.5

6.1.1 Indicator: PM 2.5

Definition PM 2.5 is fine particulate matter that is 2.5 microns in diameter of smaller (about the size of a single grain of flour). PM2.5 levels of 25 micrograms per cubic metre have demonstrable health effects, although it is recognized that adverse health effects are occurring at even lower levels.

Source Nova Scotia Department of Environment and Labour. National Ambient Air Quality Objectives for Particulate Matter: Science Assessment Document (Health Canada, Environment Canada).

Rationale From a public health perspective, one of the most significant outdoor air pollutants in Nova Scotia is small airborne particles. This includes dust, dirt, soot, smoke, or droplets that are released into the air from factories and power plants, cars, fires, or smog in Nova Scotia and from the Northeastern United States and Southern Ontario. Nova Scotia, it has been said, lives in the "tail-pipe of North America". This particulate matter can be inhaled into the lungs, leading to various health problems that range from cough and asthma attacks to cancer and premature death from respiratory disease. Scientific evidence shows that reducing airborne particulate matter can lead to improved respiratory health.

Limitations No specific limitations.

6.1.2 Indicator: Ground Level Ozone

Definition Ground level ozone (O_3) is an invisible gas that is naturally produced in the atmosphere. Increased concentrations of nitrogen oxides and volatile organic compounds increase the rate of ozone formation, especially in the presence of sunlight. The currently acceptable level of ozone is 82 ppb (parts per billion), however, there is no known lower limit threshold. Ground level ozone is more commonly known as one of the components of smog and higher concentrations are more prevalent in the summer.

Source Nova Scotia Department of Environment and Labour. (Monitoring sites are listed above).
National Source: Environment Canada (Green Lane).
http://exp-studies.tor.ec.gc.ca/e/ozone/monitor2.htm

Rationale The impact of ground level ozone on human health and certain plant species is considerable. To begin, there is no established human health threshold for ground level ozone. Even small amounts can adversely affect human health. Inhalation of ground level ozone is linked to a range of adverse health impacts including breathing discomfort, inflammation of the respiratory tract to hospitalization for respiratory failure. The health impact of ground level ozone is made worse when individuals suffer from pre-existing heart or lung disease, especially asthma.

Ground level ozone can also damage sensitive plant species and can result in lower crop yields.

Limitations No specific limitations.

6.1.3 Indicator: Sulfur Dioxide (SO_2)

Definition Sulfur dioxide belongs to the family of gases called sulfur oxides. These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.

Source Department of Environment and Labour

Rationale The major health concerns associated with exposure to high concentrations of SO_2 include effects on breathing, respiratory illness, alterations in pulmonary defenses, and this in turn aggravates existing cardiovascular disease. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to adverse health effects associated with exposure to SO_2. The current acceptable levels of SO_2 are 340 ppb on an hourly basis, and 110 ppb on a daily basis. SO_2 is also a precursor to sulfates, which are associated with acidification of lakes and streams, accelerated corrosion of buildings and monuments, reduced visibility, and adverse health effects.

Limitations No specific limitations.

6.1.4 Indicator: Number of Admissions to Emergency Rooms for Acute Asthma Attacks (Adult and Children).

Definition The total number of admissions to hospitals for acute asthma attacks for a one-year period. Data is separated based on age.

Source Population Health Research Unit, Dalhousie University. Coding Reference: 493 Asthma, 493.0 Extrinsic asthma, 493.1 Intrinsic asthma, 493.2 Chronic obstructive asthma (with obstructive pulmonary disease), 493.9 Asthma, unspecified.

Rationale Asthma is a condition in which the airways of the lungs become either narrowed or completely blocked, impeding normal breathing. However, in asthma, this obstruction of the lungs is reversible, either spontaneously or with medication.

The impact of air pollution on the incidence of asthma is clear and affects adults and children alike. However, the airways of children are more susceptible to air pollutants because their lungs are still growing and developing. This problem is compounded when children have pre-existing respiratory problems or allergies. It has been documented that when air pollution levels are high there are an increased number of admissions to emergency rooms for respiratory asthma attacks. It should also be noted that most people spend more time indoors than out, and indoor air quality is also closely related to asthma attacks.

Limitations This data needs to be interpreted with caution and this indicator needs to be viewed along with other indicators describing air pollution levels.

6.1.5 Indicator: Anti-Smoking Initiatives (Provincial Legislation, Municipal By-Laws and Enforcement)

Definition Provincial Laws and Municipal By-Laws (and enforcement) that mandate "no-smoking" in public areas.

Source To be Determined.

Rationale Indoor air quality in public spaces and the detrimental effects of second hand smoke are two factors, that when considered together, have an impact on public health. Many provinces and municipalities in Canada are enacting laws to make public spaces "smoke free". This type of public health policy has the effect of improving air quality, reducing the exposure of people --

especially children-- to the harmful effects of second-hand smoke and laws of this nature serve to educate the public on the harmful effects of tobacco.

Limitations No specific limitations.

6.1.6 Indicator Greenhouse Gas Emissions

Definition Total greenhouse gas emissions in megatons of carbon dioxide equivalents.

Source Environment Canada, Green Lane

Rationale Elevated levels of greenhouse gases cause changes in global climate, which may lead to increase in air pollution, expanding populations of pest species and vector-borne diseases, and impaired food production due to floods, droughts, and wind storms. In 1997 Canada participated in the development of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. When ratified, this will commit Canada to reduce greenhouse gas emissions to 6% below 1990 levels, some time between the years 2008 and 2012. It should be noted that at least one of the countries that participated in the Kyoto Conference, the United States, has withdrawn its support for the Protocol because it feels this will adversely affect economic growth. Most recent reports indicate Canada's continued commitment to the Protocol.

Limitations No specific limitations.

6.2 Water Quality Indicators

6.2.1 Indicator: Water Testing (Municipal and Registered Drinking Water Supplies)

Definition Municipal water sources and Registered Drinking water Supplies are required to maintain statistics on their water testing and treatment. Testing for bacteria, biological material, chemical and other pollutants is required and where there are abnormal results this information must be reported to the Department of Environment and appropriate corrective actions must be initiated. While there is no mandatory testing for private wells the Department of the Environment encourages regular testing.

Source Nova Scotia Department of Environment

Rationale One of the basic prerequisites for health is safe drinking water. With progressive urbanization, destruction of watershed lands, air and water pollution and lack of treatment of raw sewage there are many threats to our drinking water supplies. Sixty percent of Nova Scotians receive their drinking water from municipal water supplies; the remainder obtains their drinking water from private wells. Most of these municipal water supplies disinfect (kill harmful bacteria) the drinking water with chlorine. Threats to drinking water include bacteria, viruses, chemical contamination and dissolved minerals, for example from road salt, and heavy metals deposited from air pollution (e.g. mercury, cadmium), or from natural sources (e.g. arsenic).

Following the tragedy of e-coli contamination of the drinking water supply in Walkerton, Ontario there is a heightened awareness and a renewed commitment to ensure the water consumed by humans is safe. Water in municipal water treatment plants is subjected to regular and ongoing testing for bacteria, trihalomethanes, and chemical contamination.

Limitations No specific limitations.

6.2.2 Boil-Water Advisories

Definition The number of boil water advisories in the province at a given point in time. Boil-water advisories are communicated through the media and are used to notify the public that water is unsafe for human consumption because of microbiological contamination.

Source Nova Scotia Department of Environment

Rationale Clean drinking water is a basic requirement for health. When water is unsafe for human consumption because of microbiological contamination, public health officials issue a media advisory to the public to boil their water before drinking. Trends in the number of boil-water advisories provide one indication of whether the safety of drinking water supplies is improving or deteriorating.

Events of drinking water contamination in other provinces have heightened public awareness of the problem and the potential impact on human health.

Limitations Boil water advisories tend to be more frequent in summer months and are generally worse during times of drought. Regardless, the number of boil-water advisories in the province at any one time is an indication of the severity of the problem. Figures will be presented as an annual rate (total number of boil-water advisories in one year) and peak numbers (highest number of boil-water advisories at any one time during the year). It may be worthwhile to note any geographic anomalies in the interpretation of the figures. Boil water advisories apply only to public water systems.

6.3 Land Quality Indicators

6.3.1 Indicator: Waste Management

Definition Nova Scotia has established four Solid Waste Resource Management Strategy Indicators. These include Number of disposal sites, diversion of solid waste from disposal sites, number of kilograms of waste produced per capita and percentage of organic waste being composted.

Source Nova Scotia Department of Environment. Solid Waste Resource Management in Nova Scotia Status Report 2001.
Source: www.gov.ns.ca/envi/wasteman

Rationale In 1995 Nova Scotia released its Solid Waste Resource Management Strategy. This led to increased recycling of reusable waste and regulatory controls on substances entering landfill sites.

The short and long term effects on health are notable. Improved air quality, increased protection of drinking water supplies and reduced exposure to toxins produced by improper waste management are important features of healthy environmental policies.

Furthermore, there is a reduced demand on land resource to accommodate waste disposal, the new policies extend the life of existing landfill sites, the recycling and reusing of raw resources is good economic policy and helps to reduce wastage of natural resources. Good waste disposal policies also reduce the production of greenhouse gasses.

Limitations No specific limitations.

6.3.2 Indicator: Land in Protected Areas

Definition Areas protected by Statute, as a percent of Nova Scotia total landmass. The classification system adopted by the International Union for Conservation of Nature (IUCN) standards is used to identify areas to be included as "protected". In Nova Scotia protected areas include National parks, Provincial Parks, wilderness areas, nature reserves, ecological reserves, and protected areas as defined by the Environment Act.

Source Nova Scotia Department of Environment and Labour.

Rationale Protected areas are an important means of protecting biological and cultural diversity, protecting recreational resources and habitats, and providing for basic life-support functions such as producing oxygen and absorbing waste and carbon dioxide.

Limitations No specific limitations.

6.4 Other Indicators

6.4.1 Indicator: Ultraviolet Index

Definition The UV Index provides a daily forecast of the expected risk of overexposure to the sun. The Index predicts UV intensity levels on a scale of 0 to 10+, where 0 indicates a minimal risk of overexposure and 10+ means a very high risk. Calculated on a next-day basis for dozens of cities across Canada, the UV Index takes into account clouds and other local conditions that affect the amount of UV radiation reaching the ground in different parts of the country.

Ultraviolet radiation is directly affected by the ozone layer in the atmosphere. The ozone layer forms a thin shield in the upper atmosphere, protecting life on Earth from the sun's ultraviolet (UV) rays. Depletion of the ozone layer results in increased UV radiation reaching the Earth's surface, which in turn can lead to a greater chance of overexposure to UV radiation and the related health effects of skin cancer, cataracts, and immune suppression.

Ozone is a naturally occurring gas that is found in two layers of the atmosphere. In the layer surrounding the Earth's surface - the troposphere- ground-level or "bad" ozone is an air pollutant that is a key ingredient of urban smog. The troposphere extends up to the stratosphere, which is where "good" ozone protects life on Earth by absorbing some of the sun's UV rays. Stratospheric ozone is most concentrated between 6 to 30 miles above the Earth's surface.

Source National Source: Environment Canada (Green Lane) "Most Recent Brewer Observations"

Rationale The Ultraviolet (UV) Index provides important information to help plan outdoor activities to prevent overexposure to the sun's rays. Overexposure to the sun's ultraviolet (UV) radiation can cause immediate effects such as sunburn and long-term problems such as skin cancer and cataracts.

Destruction of the ozone layer and increasing exposure to UV radiation can have profound affects on human life, wildlife and plant life.

Limitations This data needs to be interpreted with caution. The impact of the Ultraviolet Index changes with the seasons and with weather patterns. Summer is generally the peak season. It is during the summer season that UV index ratings are at their highest levels with UV Index has the greatest potential to cause harm to living organisms.

6.4.2 Indicator Ocean Habitat in Protected Areas

Definition The percentage of ocean area in Nova Scotia's jurisdiction that are protected under Federal or Provincial laws.

Source Department of Fisheries and Oceans.

Rationale In the same way that forest lands in protected areas is a measure of a society's commitment to preserve and protect unique or special lands from exploitation the same can be said for ocean areas. Nova Scotia is known as "Canada's Ocean Playground" and for centuries the people of Nova Scotia have benefited from the natural resources found in the waters surrounding the Province. This aquatic habitat has undergone dramatic changes over the past 50 years from over-fishing, climate changes, off-shore oil exploration and pollution from a variety of sources including industrial waste, human wastes, and by deposition of particulate matter from air pollution. Also, the fishing industry has changed dramatically in the last fifteen years primarily due to declining fish stocks, including the near extinction of certain species of aquatic life. In addition, there are waterfront areas or islands that are home to certain species of birds and other wildlife that are sensitive to the effects of human encroachment.

Protecting unique or special aquatic habitat areas serves the function of preserving and protecting these designated areas from fishing, oil exploration, exploitation or pollution.

Limitations No specific Limitations.

ENDNOTES

[1] Marshall, L., Weir, E., Abelshon, A. & Sanborn, M. (April 16, 2002). Identifying and Managing Adverse Environmental Health Effects: 1.Taking an Exposure History. Canadian Medical Association Journal, 166(8), 1049-55.

[2] Sheldon, T. (March 20, 1999) Link Between Pollution and Asthma Uncovered. British Medical Journal.

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[4] Brunekreef B, Dockery DW, Krzyzanowski M. (1995) Epidemiologic Studies on Short-Term Effects of Low Levels of Major Ambient Air Pollution Components. Environmental Health Perspectives, 103, pp. 3-13.

Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 8
Personal Health Practices & Coping Skills

1.0 Introduction

Personal Health Practices and Coping Skills is unique among the Determinants of Health, in that it provides the possible opportunity for active decision-making on the part of the individual to promote health. While choice is the fundamental basis for establishing a healthy lifestyle, it must be recognized that none of the decisions made that affect health occur in a vacuum. Other factors that are beyond an individual's direct control, such as income, social status, genetics and culture play a role in limiting the choices open to the average Nova Scotian.

Health education and healthy government policy play a role in influencing personal health practices. As a result, people's decisions about their food choices, levels of physical activity and other factors may provide clues to the effectiveness of health promotion and communication efforts on the part of legislators. While there are many clear messages regarding the negative health effects of smoking, for example, a significant number of people continue to smoke, and although many individuals do choose to quit, many others begin smoking every year. Fortunately, the trend continues toward fewer smokers overall.

A significant portion of this report is devoted to 'risk-taking behaviour'. People who take health risks are "willing to take both social and physical risks indicating that they are willing to defy social conventions and risk their physical well-being[1]". The behaviours may be dangerous to their own health, and that of others, and may in some cases be illegal. People of all ages may engage in risk-taking behaviour, but the perceived 'invincibility of youth' may lead to more young people participating in riskier activities.

It would provide an incomplete picture of Personal Health Practices if we did not include positive behaviours, such as frequency of contact with medical doctors and dietary practices. Combining an examination of both positive and negative choices by Nova Scotians of all age groups helps to provide the most balanced, complete report possible.

Effective coping skills are important in maintaining health, as they can minimize the effects of stress on the individual. Stressors abound in our society, with many working poor and seniors experiencing a daily struggle with income insecurity and lack of social supports. A person who is able to deal with stress effectively is less likely to resort to alcohol or drugs as a temporary 'fix' for life's problems. Having an effective outlet for stress and anxiety, such as comfort acquired through religious and spiritual pursuits can aid in reducing stress. Having a sense of control over your own environment increases confidence and self-esteem, and may lead to decreased stress.

2.0 Committee Membership

The following individuals served as members of the Personal Health Practices and Coping Skills Committee either as volunteers or as representatives of their organizations:

Walter Proctor, Committee Chair, Provincial Health Council Member
Harry Churchill, Provincial Health Council Member
Catherine Randall, Chair of Provincial Health Council
John Dow, Executive Director, Provincial Health Council
Doug Manzer, Group of IX
Philip Hochman, Recreation Director, Municipality of the District of Guysborough
Brent Sherar, Minister of Education Youth Advisory Committee
Merle MacDonald, School of Education, Acadia University
Beth Rajnovich, Support Staff, Provincial Health Council
Amy Lewis, Support Staff, Provincial Health Council
David F. Mercer, Researcher/Analyst, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix Three - Key Determinants of Health*) and it was through this initiative that the Personal Health Practices and Coping Skills Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public and decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals *(See Appendix Four - Nova Scotia's Health Goals*). The Terms of Reference of the Personal Health Practices and Coping Skills Committee are described in *Appendix Five - Terms of Reference for Personal Health Practices and Coping Skills Committee.*

4.0 Definition of "Personal Health Practices and Coping Skills"

Personal Health Practices and Coping Skills refer to those actions by which individuals can prevent diseases and promote self-care, cope with challenges, and develop self-reliance, solve problems and make choices that enhance health[2].

6.0 Recommended Indicators

6.1 Risk-Taking Behaviour

Definition Risk-taking behaviour is the voluntary participation in behaviours that contain, or are at least seen to contain, a significant degree of risk[3]. The committee decided to collect a number of indicators that would provide a more complete view of health related risk-taking behaviour.

Definition 6.1.1 Drunk Driving –Number of alcohol-related traffic fatalities or injuries.

Source Transport Canada, *The Alcohol Crash Problem in Canada: 2000* The Traffic Injury Research Foundation of Canada, Report Number 11759 E.

Rationale Alcohol is a significant cause of accidental death on the road. Despite the best efforts of organizations such as MADD, male drivers between the ages of 20-25 accounted for 26.1% of the fatally injured drinking drivers in Nova Scotia in the year 2000. Young males are the group predominantly responsible for drunken driving. In Canada during 2000, a total of 981 persons died in confirmed alcohol-related crashes, with 34 of these occurring in the Province of Nova Scotia[4]. A recent article in the New York Times suggests that despite advertising targeted at the most at-risk demographic group, many young males choose to consciously ignore the message[5]. Additional information on vehicular mortality or injury for off-road or all-terrain vehicles (ATVs), snowmobiles, and other causes is collected in the Nova Scotia Trauma Registry, as well as in the National Trauma registry, maintained by the Canadian Institute for Health Information (CIHI)[6].

Limitations Data on automobile crashes are in some cases extrapolated from known figures, as only some individuals were actually tested for alcohol, so the figures should be interpreted with caution.

Definition 6.1.2 Underage Drinking – Number of youth under 19 years of age reporting instances of drinking 5 drinks or more on one occasion in the last 12 months

Source Statistics Canada – Frequency of drinking 5 or more drinks on one occasion in the last 12 months, by age group and sex, household population aged 12 and over who are current drinkers, Canada, 2000/01.

Nova Scotia Dept. of Health Addiction Services and Dalhousie University, *Nova Scotia Student Drug Use 2002.*

Rationale Recent evidence suggests that teens who experiment with drugs or alcohol may be taking greater risks than previously suspected. Experimentation with alcohol can lead to changes in the structure of the brain, creating difficulties with impulse control, and vulnerability to addictions and alcoholism later in life[7]. In 2002, 51.7% of adolescent students in Nova Scotia reported having consumed some alcohol during the last year, and 30.3% reported consumption of alcohol more than once per month in the past year. Consumption among adolescents was highest in the Guysborough Antigonish Strait and Cape Breton District Health Authorities[8].

Limitations None known.

Definition 6.1.3 Violence – Number of persons charged with violent offences.

Source Statistics Canada – Adults and youths charged, by offence category and sex, Canada, provinces and territories, 1996-2001.

Rationale According to the World Health Organization, violence leads to impacts on property values, health and welfare services and disrupts essential services around the world[9]. The causes of violence are varied, but exposure to violence in the home during childhood is being acknowledged as playing a significant role in future behaviour[10]. In 1998-99, 29.2% of Canadian males aged 12-15 who were interviewed reported committing violent delinquent acts, compared to only 10.1% of females in the same age group[11]. In Nova Scotia, the number of male youth aged 12-17 charged with violent offences dropped from 487 to 414 between 1996 and 2000, but the number of females charged in the same category rose slightly, from 129 to 139 during the same five-year period.

Limitations Data must be interpreted with caution, as the source only represents occasions when individuals were charged with criminal offenses. The number of actual incidents may be much higher.

Definition 6.1.4 HIV/AIDS– Number of Diagnosed cases of HIV and AIDS

Source Health Canada – *HIV and AIDS in Canada: Surveillance Report to June 30, 2002,* Division of HIV/AIDS Epidemiology and Surveillance, November 2002.

Nova Scotia Department of Health – *HIV/AIDS Surveillance Report 2000*, November 2001.

Rationale In 2001, adult positive HIV tests in Canada declined to 2,165, from a 1997 high of 2,498. Sadly, the decrease in proportion in some categories, particularly intravenous drug use and heterosexual contact with persons at risk, has been accompanied by a rise in cases of homosexual exposure to HIV. In Nova Scotia and Prince Edward Island, there were a total of 577 positive HIV tests between November 1985, and June 2002, which accounted for 12.6% of the total cases in Canada[12]. In Nova Scotia, positive HIV tests declined from a high of 50 in 1986, to 17 in 2000, the lowest rate since 1984[13].

Limitations Most recent data is available for Nova Scotia and Prince Edward Island combined, due to comparatively low incidence rates. 2002 data represents only the first six months of that year. Nova Scotia data is available to the year 2000.

Definition 6.1.5 Problem Gambling – Number of persons having gambling habits that could be categorized as problematic or pathological.

Source National Council of Welfare, *Gambling in Canada*, Winter 1996.

Nova Scotia Dept. of Health, Addiction Services and Dalhousie University, *Nova Scotia Student Drug Use 2002.*

Rationale Government investment in gambling has become commonplace around the world. Advertisements for lotteries and casinos convey an overwhelmingly positive message, ignoring the fact that participation in games of chance has a potential dark side. A 1996 study showed that 5.5% of gamblers in Nova Scotia reported having a gambling problem sometime in their lives, and 1.1% of the individuals surveyed admitted to being current pathological or problem gamblers[14]. Gambling revenue in Nova Scotia rose from $125 million in 1992 to $184.5 million in 2001/02. In 2001, $473 was spent per person on gambling in Nova Scotia, compared to only $180 in 1992[15]. Among younger Nova Scotians, 2.1% of students in grades 7, 9, 10 and 12 were considered to be problem gamblers, according to a 2002 survey[16]. Voluntary exclusion from casinos have helped individuals cope with destructive gambling habits, with 114 individuals requesting voluntary exclusion in 2001/02[17]. Protective features on video lottery terminals (VLTs) have apparently failed to curtail their use, with figures showing a 21% increase in VLT wagering from 2000-2002[18].

Limitations Data from the 1996 study are limited to gambling survey respondents. More recent data specific to problem gambling should be gathered, as the present sources are now extremely outdated. More recent data from Statistics Canada breaks down revenue and expenditure without distinguishing gambling activities from problem gambling behaviour.

Definition 6.1.6 Condom Use – Number and percentage of the population who report using condoms during sexual activity in various levels of frequency.

Source Statistics Canada – Condom use, by sex, household population aged 15 to 59, selected provinces, territories and health regions, 2000/01.

Nova Scotia Dept. of Health Addiction Services and Dalhousie University, *Nova Scotia Student Drug Use 2002.*

Rationale Condoms, originally sold as a method of birth control, are now more commonly used as a method to prevent the spread of sexually transmitted infections (STI). Sexual activity without the use of a condom creates much greater risk of unintended pregnancy and STIs that may lead to infertility, some cancers, and even death[19]. In 2002, students from across Nova Scotia were surveyed concerning alcohol, drugs and sexual behaviour. 29% of students from grades 7, 9, 10 and 12 reported having had sexual intercourse in the year prior to the survey. Of these, 70.2% of males and 59% of females reported having used a condom. The most common reason given by both sexes for not using a condom was not having one at the time of intercourse[20].

Limitations Freely available data from Statistics Canada is for selected provinces only, and excludes Nova Scotia. Data is more readily available on various STIs. Detailed data for Nova Scotia is available for students responding to the *Student Drug Use Survey 2002*.

Definition 6.1.7 Number of live births to adolescent mothers (18 years and under)

Source Service Nova Scotia and Municipal Relations Vital Statistics Report 2001.

Rationale Teenage pregnancies have declined sharply since the high levels observed between 1975 and 1984, perhaps partly due to increased availability of contraceptives, and awareness of the risks associated with unprotected sex due to the AIDS epidemic[21]. Women under 15 years of age and over 45 years of age are more likely to have an underweight newborn, leading to possible complications for the infant[22], and are at greater risk for health problems, including anemia and hypertension[23]

Limitations None known.

Definition 6.1.8 Smoking: Age of respondent when smoking initiated, smoking status, changes over time in smoking behaviour and what aids were used in cessation of smoking

Sources Statistics Canada/Canadian Institute for Health Information, Smoking initiation (average age) by sex, household population aged 12 and over, smokers and former smokers, Canada, provinces, territories, health regions and peer groups, 2000/01.

Statistics Canada/Canadian Institute for Health Information, Smoking status, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01.

Statistics Canada/Canadian Institute for Health Information, Changes over time in smoking behaviour, household population aged 12 and over who reported on smoking in 1994/95, by sex, Canada and provinces, 2000/01.

Statistics Canada, Smoking cessation aids, by sex, household population aged 12 and over, selected provinces, territories and health regions, 2000/01.

Rationale Smoking has persisted as a behaviour despite evidence showing multiple harmful effects. While 55,401 Nova Scotians became non smokers between 1994/95 and

2000/01, 16,133 non smokers became smokers. While numbers are declining, it is obvious that some people are not heeding the messages about smoking's threat to health.

Limitations None known.

6.2 Medical Checkups

Definition 6.2.1 Contact with Medical Doctors – Number of individuals who have had contact with medical doctors in the last 12 months.

Source Statistics Canada/Canadian Institute for Health Information, Contact with medical doctors, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01.

Rationale Frequency of visits to medical professionals is an indication of how aware people are of the necessity for monitoring their own health status, and could be interpreted to show the level of responsibility people take for their own health.

Limitations None known.

Definition 6.2.2 Screening/Prevention – Number of individuals on whom medical tests were performed by medical professionals to screen for potential health problems.

Source Statistics Canada – Blood pressure check, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups

Health Canada – *Cervical Cancer Screening in Canada: 1998 Surveillance Report.*

Statistics Canada/Canadian Institute for Health Information – Pap smear, by age group, women aged 18 to 69, Canada, 2000/01.

Data is also available on screening for other conditions, such as Prostate-Specific Antigen (PSA) tests, breast examinations, and many others.

Rationale Screening for health conditions indicates an awareness and due attention to individual health status. Blood pressure checks and cervical cancer screenings are just two examples of a number of possible tests. It is important to note that in the context of this report, the value or efficacy of particular screening methods are not at issue. The intention of this indicator is merely to point out the number of individuals who choose to undergo preventative testing, without attaching value to particular tests.

Limitations None known.

6.3 Dietary Habits

Definition 6.3.1 Dietary Practices - the choices made by individuals regarding types of food consumed.

Sources Statistics Canada/Canadian Institute for Health Information, Dietary practices, by age group and sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01.

Statistics Canada, Changes made to improve health, by sex, household population aged 12 and over, selected provinces, territories and health regions, 2000/01.

Rationale Good dietary practices, combined with regular exercise, can minimize the possible effects of obesity or disorders related to low weight. One of the most significant barriers to healthy eating is a lack of sufficient income.

Limitations None known.

Definition 6.3.2 Body Mass Index –Number and percentage of individuals exhibiting a particular healthy or unhealthy weight range.

Source Statistics Canada/Canadian Institute for Health Information, Body Mass Index (BMI), Canadian standard, by sex, household population aged 20 to 64 excluding pregnant women, Canada, provinces, territories, health regions and peer groups, 2000/01.

Rationale Body Mass Index is an internationally recognized measure of body weight in relation to height. A BMI between 20 and 25 is the zone associated with the lowest risk of illness. Its use is appropriate for most, with the exception of pregnant women and the extremely muscular. It is used as a measure of obesity, along with the Waist-Hip Ratio. Obesity in adults has been linked to incidence of coronary disease and type-2 diabetes[24].

Limitations The Canadian measure of the BMI is slightly different than that used in other countries, which may limit international comparisons.

6.4 Independent Decision Making

Definition Self-Reported Levels of Control or Mastery

Sources Statistics Canada, Mastery, by sex, household population aged 12 and over, selected provinces, territories and health regions, 2000/01.

Rationale Mastery is defined as the feeling of control over one's life, actions and decisions, and would imply the capacity to make informed choices about one's health. The perceived ability to effect your own environment can lead to lower levels of stress. Along with this sense of control comes the ability to make informed choices regarding your personal health practices.

Limitations Since the data do not deal specifically with health status, it should be interpreted with caution.

6.5 Work Environment

Definition 6.5.1 Shift Work – Number of workers whose shifts are rotating and may be irregular, including nights and weekends.

Source Statistics Canada, "The Health of Canada's Shift Workers", *Canadian Social Trends*, No. 69, Summer 2003.

Rationale Long periods of irregular shift work may have serious health consequences due to psychological stress. Disruption of daily living patterns and sleep may result in mental and physical health problems[25]. For example, men working an evening, rotating or irregular shift in 1994/95 had a much greater chance of being diagnosed with a chronic health problem in the next four years. These problems can include heart disease, hypertension and gastrointestinal disorders[26]. In addition, shift workers reported other problems that ranged from sleep disruption to difficulties with relationships[27]. In 2003, approximately 30 per cent of workers across Canada worked non-standard hours[28].

Limitation None known.

Definition 6.5.2 Occupational Health and Safety – Number of events of workplace injury, illness and mortality.

Source Nova Scotia Department of Environment and Labour, Occupational Health and Safety Division, *Annual Report*, 2000/01.

Rationale Workplace stress and long working hours could lead to chronic health conditions. Hazardous conditions in the workplace, combined with inadequate employee training, could lead to accidents and injuries, as well as death.

Limitations None known.

6.6 Spirituality

Definition	Number of persons indicating religious affiliation.
Sources	Statistics Canada 2001 Census Analysis Series: Religions in Canada, May 13, 2003. Angus Reid Group, *Canadians Believers Not Belongers*, April 2000.
Rationale	Spirituality refers to a cause, principle, or system of beliefs held to with ardor and faith which an individual may find comforting in times of crisis or stress, or on a daily basis. Activities related to these beliefs may be organized, ritualized, and structured, or personal and unique. Recent reports based on the 2001 census indicate that 7 of every 10 Canadians identify themselves as Roman Catholic or Protestant, although the median age of Protestants is now well above the national average. Nova Scotia also remains predominantly Roman Catholic and Protestant. The numbers of those professing the Jewish faith in Nova Scotia increased, and changing immigration patterns are reflected in the monumental growth of Islam (up 147% since 1991) and those identifying themselves as Hindus (up 28% during the same 10-year period). Conversely, the number of individuals claiming 'No Religion' across Canada increased to 16% in 2001 from 12.3% in 1991 , compared to a rise from 7.5% to 11.6% in Nova Scotia during the same period[29]. A poll conducted by the Angus Reid Group in 2000 showed that fully 84% of respondents professed a belief in God, but only 20% were regular churchgoers[30]. The Fetzer Institute is a U.S.-based organization devoted to the study of spiritual issues as they relate to health. Their 1997 report suggests that religiousness or spirituality may have indirect positive links to healthy lifestyles. Some religious traditions advocate healthy diets and discourage smoking, and highly religious people have been shown to be consistently less likely to abuse drugs or alcohol[31].
Limitations	There is still considerable debate about the role of spirituality in health. Data must be interpreted with caution.

6.7 Medication Usage

Definition	6.7.1 Multiple Prescription Drug Use Among Seniors.
Sources	Nova Scotia Senior Citizen's Secretariat, *A Statistical Profile of Nova Scotia Seniors 2003.* Statistics Canada, "Multiple Medication Use Among Seniors" *Health Reports,* Spring 1998.
Rationale	In Canada, an estimated 10% to 30% of elderly hospital patients are admitted per year

due to medication toxicity. The National Population health Survey in 1994/95 found that use of medications increases with age, particularly for women. Relationships between seniors and their physicians are often lacking in communication, resulting in over-prescription[32]. Improvements in communication technology, such as electronic patient records, may help to alleviate this problem, and government initiatives, such as Nova Scotia's Medication record program will also place more control over medication usage in the hands of seniors.
On average, female seniors in Nova Scotia who were covered by the Pharmacare program had 14% more prescriptions filled than male seniors in 2000/01. During this period, 91,626 seniors were enrolled in the Pharmacare program[33].

Limitations Data from Nova Scotia do not reflect seniors not enrolled in the Pharmacare program, although the data encompasses fully 71% of the senior population.

Definition 6.7.2 Use of Antidepressants.

Sources Statistics Canada, *Canada's Alcohol and Other Drugs Survey 1994*.

Statistics Canada/Health Canada, "Medications", *Statistical Report on the Health of Canadians*, 1999.

Rationale 3.3% of people in the Maritime region reported use of antidepressants in 1994. Across Canada, individuals who are widowed are more likely to be taking antidepressants, as are Francophones[34]. In 1996-97, 37,268 Nova Scotians reported they were taking antidepressants, the fifth highest provincial total in Canada.

Limitations The data contained in the *Alcohol and Other Drugs Survey* is now nearly 10 years old, and may not reflect present conditions. It should be recommended, given the importance of the subject matter, that the survey be repeated at regular intervals rather than being a one-time occurrence.

6.8 Self-Rated Health

Definition Self-identified health status of the population.

Sources Statistics Canada/Canadian Institute for Health Information, Self-Rated Health, by sex, population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01.

Statistics Canada/Canadian Institute for Health Information, Changes over time in self-rated health, household population aged 12 and over who rated their health status in 1994/95, by sex, Canada and provinces 2000/01.

Rationale How people rate their own level of health will effect the decisions they make regarding the actions they take to improve it.

Limitations None known.

6.9 Physical Activity Levels

Definition Levels of self-reported physical activity.

Source Statistics Canada/Canadian Institute for Health Information, Leisure-Time Physical Activity, by sex, household population aged 12 and over, Canada and provinces 1994/95-1998/99.

Canadian Fitness and Lifestyle Research Institute, *2000 Physical Activity Monitor: Increasing Physical Activity – Supporting Children's Participation.*

Rationale Physical activity is one of the most important factors in improving and maintaining health. In 2000, 64% of Nova Scotians classified themselves as "Active" or "Moderately Active", with the remaining 36% being "Somewhat Active" or "Sedentary"[35]. A 2001/02 Nova Scotia study, in which 1,700 students from grades 3, 7 and 11 wore an accelerometer for one week, found that the number of students accumulating the recommended 60 minutes or more of moderate physical activity on five or more days per week dropped sharply as the grade level increased, from 92% of boys and girls in grade 3 to 12.6% of boys and 6.9% of girls in grade 11[36].

Limitations None known.

6.10 Income/Financial Security

Definition Amount of earnings per individual and family.

Source Statistics Canada, 2001 Census Analysis Series: *Income of Canadian Families*, May 2003.

Nova Scotia Department of Finance, Statistics Division, Taxfilers & Dependents with income by source of income, 2000.

Rationale It has been repeatedly observed that income levels have the greatest influence on health. In this context, it must be noted that levels of income, and the security of that income, can have an effect on the choices an individual makes regarding health. Limited disposable income may restrict access to public and private user-paid recreation facilities, and limit the amount of healthy food choices available.

Limitations None known.

6.11 Personal Health Education

Definition 6.11.1 Use of Complementary Medicine

Source Statistics Canada/Canadian Institute for Health Information, contact with alternative health care providers, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01.

Rationale Alternative or complementary medicine, which is largely unregulated, is defined as, "those treatments and health care practices not widely taught in medical schools, not routinely used in hospitals, and not typically reimbursed by health benefit plans[37]." Just over 46,000 people in Nova Scotia consulted alternative practitioners in 2000/01[38]. In the Canadian context, users of alternative or complementary services are most often college or university educated, and fall into the upper-middle range of household income. Slightly more women than men consult these practitioners, and the age group from 25 to 44 years of age makes the most use of these services[39].

Limitations None known.

Definition 6.11.2 Use of Internet for Health Information

Source Statistics Canada, Households using the Internet from home, by purpose of use/ Households with at least one regular Internet user 1997-2000.

Rationale Health care consumers are increasingly consulting the Internet for information. 66% of Canadians who use the Internet have searched for online health information, making it the most popular online activity. It is also the only online activity participated in by more females (76% of all female Internet users) than males (56%)[40]. 57.4% of people in the province were using the Internet in 2001, slightly below the Canadian average of 60.2%[41]. Approximately 480,000 Nova Scotians were using the Internet as of August 2003[42].

Limitations Data on Internet use in regards to purpose within Nova Scotia is sketchy at best. General information on households with at least one user is available on the provincial level, but data on purpose of use is only reported on the national level.

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Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 9
Healthy Child Development

1.0 Introduction

Children and youth are important members of Canadian families, communities and the larger society. Children and youth represent the future of our country.

The health status of children and youth is greatly influenced by a wide range of social, cultural, physical and economic determinants. Many of these determinants not only lie outside the traditional health care sector, they are beyond the individual control of children and youth. Many of the issues affecting healthy child development are adult related. Therefore, the committee felt the need to include such indicators as at risk birth rates, breast feeding rates, low-income families and the number of women and children staying in shelters.

More recent research has shown that the period from pre-conception to age 5 is much more important than previously thought. Some of the indicators reflect the research findings as well as the personal views of the committee members.

The committee recognizes there are numerous other potential indicators related to this topic, however, for purposes of this report the committee limited its choice to a limited number of indicators based on the criteria for selection of indicators as described in Appendix 3 of this report.

Note: Terms that appear throughout the body of the report in a light grey font have been defined in the Glossary of Terms (see Appendix 5).

2.0 Committee Membership

The following individuals served as members of the Healthy Child Development Committee:

Tom Bird (Chair) - Board Member, Provincial Health Council
Suzanne Brown, Beechville - Lakeside -- Timberlea Teen Health Centre
Heather Christian, Nova Scotia Department of Health
Michael Colborne, Nova Scotia Provincial Library
John Dow, Executive Director, Provincial Health Council
Barbara Hart, Ex-Chair, Provincial Health Council
Philip Hochman, Municipality of the District of Guysborough
Vivian Farrell, Board Member and Chair, Provincial Health Council
Marg Forbes, South West Regional School Board
Merle MacDonald, Acadia University/Mount Saint Vincent University
Brenda Montgomery, Health Care Consultant
Mildred Noiles, Provincial Health Council
Bob Quigly, Halifax Regional Parks and Recreation Services
Elizabeth Semple, North Shore Community Health Board
Gordon Walsh, Research and Statistical Officer, Provincial Health Council

Dr. Deborah Kiceniuk and Naomi Mensink both played an important role in the early stages of the Committee's work.

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See Appendix One - Key Determinants of Health). Subsequently the Healthy Child Development Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. For the purposes of this Report, the Committee decided that some indicators could have more than one measure, or statistic to describe the indicator (e.g., "At Risk" Birth Weight). The Terms of Reference of the Healthy Child Development Committee are described in Appendix Two - Terms of Reference Healthy Child Development Committee.

The specific objectives of the Healthy Child Development Committee were to:

1. Develop and recommend healthy child development indicators that could be incorporated into a Report Card for the public on health issues in Nova Scotia. These indicators (approx. 10 key indicators) on the state of healthy child development should be "user friendly" so they can be understood by the public, the media and politicians. The purpose of identifying these indicators is to serve as an education tool for communities interested in measuring child well-being, monitoring progress, and encouraging change in policy aimed at improving the prospects for Nova Scotia's children and youth;

2. Advise government on the benefits of developing public policy that promotes healthy child development. Although Healthy Child Development is a Determinant of Health in and of itself, it is also recognized that a range of social, cultural, physical and economic factors influence healthy child development. Such are the interconnectedness of the determinants of health using a Population Health perspective. The government must be informed of the positive and negative impact that policies related to healthy child development can have on health. This is all the more important given that much of the illness and injuries that befall Nova Scotia's children and youth are preventable.

In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive dialogue and, where necessary, change to healthy child development policy.

4.0 Framework for Developing Indicators

The Healthy Child Development Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review of the scientific literature and other national and provincial reports for health indicators related to healthy child development. Consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See Appendix Three - Criteria for Selection of Indicators);
3. Review of indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible healthy child development indicators that are currently available.

5. Definition of Healthy Child Development

6.0 Recommended Indicators

6.1 Proportion of New Mothers Attending Prenatal Courses

Definition Number of first mothers that completed a prenatal course prior to their child's birth in relation to the total number of first time mothers.

Source Reproductive Care Program (RCP), IWK Hospital - ATLEE database

Rationale Prenatal courses offer a range of labour, delivery and postpartum benefits to the first time parent[1]. The objective of prenatal classes is to promote a health pregnancy by helping women understand their health and the health of their babies. Women are taught to recognize early signs of developing health problems and potentially hazardous situations to avoid. Prenatal courses also prepare the parents for the birth and care of the baby by helping them understand the physiologic basis of fetal development, labour and birth. In this manner parents have realistic expectations of themselves and are able to effectively manage the childbirth experience through active participation, informative decision making, and various methods of pain management skills[2]. Prenatal courses also provide a forum for meeting other expectant parents and provide a link to other community resources. This information is all the more important in a climate of shortened hospital stays/early discharge[3].

Research in northern Nova Scotia shows that approximately two-thirds of first time mothers attended prenatal classes[4]. Consistent with findings from elsewhere, attendees had higher levels of education and income than non-attendees[5]. The Nova Scotia data also show that attendees were 80% more likely than non-attendees to give their babies a healthy start in life through breast feeding and were significantly less likely to smoke cigarettes. No data are available yet with respect to birth, delivery and postpartum outcomes for attendees versus nonattendees but this can be available by request.

Availability Annual.

Limitations Data only available for the mother. Also, prenatal programs vary in length and scope. This is simply a yes/no did you attend question and does not provide information on the value of the education for the mother or partner in managing childbirth and the post-partum period.

6.2 At Risk Birth Weight

Definition Low Birth Weight: Birth weights below 2,500 grams
High Birth Weight: Birth weights greater than 4,000 grams

Source Canadian Institute of Health Information/ Reproductive Care Program (RCP), IWK Hospital - ATLEE database

Rationale Low birth weight rates are an important indicator of health status. Babies born with low birth weight are at increased risk of a number of health concerns including cerebral palsy, deafness and blindness, epilepsy, learning disabilities and attention deficit disorder[6][7][8]. Most low birth weight births (50%-70%) are preventable. For example, having regular checkups throughout the pregnancy, eating a balanced diet high in fiber and low in fat, consuming sufficient calories, vitamins, and minerals each day (including 400 micrograms of folic acid), gaining a healthful amount of weight throughout the pregnancy (e.g., between 25 and 35 pounds), and avoiding tobacco, alcohol and other drugs during the pregnancy can help prevent low birth weight[9]. In 1997, 5.8% of babies are born with low birth weight in Canada[10]. Nova Scotia had an identical rate.

Babies born with a high birth weight (macrosomia) are at increased risk for birth injuries, intellectual and developmental problems[11][12][13]. The High Birth Weight Rate for Canada in 1997 was 12.3%. The comparable figure for Nova Scotia is yet to be computed.

Availability Annual

Limitations High Birth Weight will have to be computed from the raw data.

6.3 Infant Mortality Rate

Definition Ratio of the number of deaths of children under one year of age to the number of live births for a given period of time.

Source Canadian Institute of Health Information/ Reproductive Care Program (RCP), IWK Hospital - ATLEE database

Rationale Infant mortality is one of the most important and commonly used indicators of a population's health[12]. High infant mortality rates such as those seen in developing countries are a reflection of poor conditions in the general physical and socioeconomic environment as well as the quality of available health care resources. Even within Canada, there is a pronounced difference in infant mortality rates between income groups with rates declining with each step up the income ladder [14] [6] [15]. The leading causes of infant mortality in Canada are respiratory distress syndrome, short gestation and low birth weight, congenital anomalies and sudden infant death syndrome (SIDS) [14].

Over the past four decades infant mortality rates have declined significantly in Canada, declining from 27.3 per 1,000 live births in 1960 to 5.5 in 1997. The declines are largely due to gains in medical research and public health campaigns aimed at preventing low birth weight infants, serious birth defect such as spina bifida and anencephaly (e.g., folic acid campaigns), sudden infant death syndrome ("Back to Sleep" campaign), teen pregnancies etc.

The Nova Scotia infant mortality rate for 1997 was 4.42 per 1,000

Availability Annual

Limitations Does not capture morbidity among the infant population.

6.4 Breastfeeding Initiation Rate

Definition Number of mothers who initiate breastfeeding in relation to the number of live births.

Source Reproductive Care Program (RCP), IWK Hospital - ATLEE database
Canadian Community Health Survey (Cycle 1 only)

Rationale Breastmilk provides the "ideal nutrition for infants and contributes to their healthy growth and development, reduces incidence and severity of infectious diseases, thereby lowering infant morbidity and mortality" [16]. The "unique nutrients, enzymes, growth factors, hormones and immunological and anti-inflammatory properties of human milk protect infants from respiratory disease, otitis media, gastroenteritis and Sudden Infant Death Syndrome. Beyond infancy the benefits contribute to protection against childhood cancers, insulin dependent diabetes, allergy and Crohn's disease, improved cognitive development and fewer learning disabilities [17 18 14].

Breastfeeding also provides benefits to the mother by reducing the risk of breast and ovarian cancer. It also provides social and economic benefits to the family in the form of a safe, secure and self-reliant source of nutritious food [16 17].

Recent data suggest that while 75%-80% of Canadian mothers initiate breastfeeding, only 30% continue to breastfeed for up to six months [18 19 14]. The Report on the Health of Canadians showed that there is considerable regional variation in breastfeeding rates across the country. The proportion of mothers who had breastfed their last child increased from eastern to western Canada, with an average of 30% in Nova Scotia and 44% overall [19].

Aailability Annual

Limitations Does not factor in duration or breast milk as the exclusive source of food.

6.5 Childhood Immunization Rate

Definition Percentage of children receiving immunizations for Diptheria-Tetanus-Pertussis (DPT), Polio, Hemophilus influenza type B, and measels-mumps-rubella (MMR).

Source Nova Scotia Department of Health - Medical Officer of Health

Rationale Communicable diseases are caused by the transmission of a specific infectious agent or its toxic products from an infected person or animal to a susceptible host. While immunization programmes represented one of preventative medicines greatest triumphs in the 21st century, communicable diseases continue to present the most important acute health problems in all countries [20 21].

In the last quarter century, about thirty new microorganisms associated with emerging communicable diseases have been identified including Ebola, AIDS, and hepatitis C [22]. Other older and once common diseases such as plague, diphtheria, and meningococcal meningitis are re-emerging as public health problems [22]. If immunization programs were to be discontinued, many vaccine-preventable diseases that have been controlled or eliminated would return [23 24]. For example, in Russia, the number of deaths from diphtheria ballooned from 0 to 5,000 per year in 1994 following the discontinuation of their organized vaccination system [25]. Immunization remains one of the most effective means of protecting children's health. A commitment to child health through immunization programmes must, therefore, remain a high priority for public health.

Availability Annual

Limitations None known.

6.6 Proportion of Population Living Below the Low-Income Cut-Off Point

Definition Proportion of persons in low-income households, as measured by Statistics Canada low-income cut-off, in relation to the total population of households.

Source Statistics Canada Annual Income Survey

Rationale Income and education are the two main indicators of socioeconomic status, which are widely considered to be the most important determinant of health [26]. Health status and life expectancy improve with every step up the income ladder [19]. "Low-income Canadians are more likely to die earlier and to suffer more illnesses than Canadians with higher incomes regardless of age, sex, place of residence or cause of death" [19]. Apparently, higher income provides for greater control over life decisions, which is essential to good health [27] [26]. Moreover, living conditions such as safe/quality housing, food security and other basic needs are determined by sufficient income. Whereas higher incomes are associated with favourable social conditions, the opposite is true for lower incomes. More explicitly, low-income tends to be associated with many unfavourable social conditions such as poor quality housing, food insecurity, poor nutrition, low-skilled jobs and high unemployment, all of which contribute to higher rates of morbidity and mortality [28] [19].

Recent data suggest that an increasing proportion of Canadians may be living below the low-income cut-off. Between 1990 and 1995, the proportion of Canadians living in low-income situations increased from 16.2% to 19.7%. Nova Scotia had a similar increase (15.6 to 18.8%) during this time period.

Availability Annual

Limitations Low-income cut-off point is the amount necessary for material survival. It is not an indicator of general well-being.

6.7 Number of Children Seen in Hospital with Diabetes

Definition Number of children aged 0-19 years presenting at the hospital for diabetes.

Source Population Health Research Unit/ Diabetes Care Program of Nova Scotia

Rationale Diabetes interferes with the body's ability to produce (Type 1 diabetes) or properly use insulin (Type 2 diabetes). It is the seventh leading cause of death in Canada [29]. What's more, diabetes that is not properly looked after can lead to many other serious problems such as heart disease, stroke, kidney disease, impotence, peripheral vascular disease, nerve damage, and damage to the back of the eye [30]. There is no cure for diabetes but Type 2 diabetes may be preventable through good eating habits, physical activity, and avoiding excessive weight gain. Recent prevalence studies suggest that diabetes is reaching epidemic levels in Canada [31]. Higher rates of obesity and physical inactivity will exacerbate the trend.

In 2002, Diabetes affected nearly 8% of all Canadians, 4% of Nova Scotians.

Availability Annual.

Limitations Figures represent events and not persons. Diabetes Care Program of Nova Scotia has data for children under 19 years of age.

6.8 Number of Children Seen in Hospital with Asthma

Definition Number of children aged 0-19 years presenting at the hospital for asthma.

Source Canadian Institute of Health Information/ Population Health Research Unit

Rationale Asthma is a chronic inflammation of the lung's bronchial tubes that obstructs air flow and leads to a number of symptoms including wheezing, coughing, chest tightness, and shortness of breath [32] [33]. Asthma is one of the most prevalent chronic conditions affecting Canadians. Asthma effects about 12% of school-age children, whereas approximately 10% of children take medication for asthma [34].

In 1996, it was estimated that 6% of all Canadians had asthma. In Nova Scotia there are 7% [19].

Availability Annual.

Limitations Figures represent events and not persons.

6.9 Rate of Injuries Causing Hospitalization & Death

Definition Number of children aged 0-19 years per 100,000 who died or presented at the hospital for both unintentional and intentionally self-inflicted injuries, including unintentional injuries, motor vehicle traffic crashes, falls, suicide or self-inflicted injuries, homicides or injuries due to assault, injuries of undetermined intent, and other violence.

Source Canadian Institute of Health Information/ Population Health Research Unit/ Child Injury Division, Health Protection Branch, Health Canada

Rationale Injuries have reached epidemic proportions in Canada. Childhood injuries are the leading cause of morbidity, mortality and disability for Nova Scotia children and youth [35]. In fact, more children and youth younger than 25 years of age die from injuries each year than all other causes of death combined. Furthermore, injuries continue to be the primary cause of death for Canadian males and females until age 44 [36].

In 1990, 1,624 Canadian children and youth younger than 20 years of age died and 82,000 were hospitalized as the result of an injury [37]. Similarly, between 1989 and 1996, 279 Nova Scotia children and youth died as the result of an injury. In addition, 12,882 were hospitalized between 1992 and 1996 [35]. Experts suggest that as many as 90% of all injuries could be prevented through strategic prevention programs [38].

Availability Annual.

Limitations While hospitalization is a strong indication of the seriousness of an injury, only 6% of injuries end up in hospital.

6.10 Proportion of Obese Children and Youth

Definition Proportion of persons aged 15-23 years with a body mass index (BMI) equal to or greater than 30.0 for males and 28.6 for females. Based on the ratio between a person's weight and the square of their height (kg/m2).

Source Statistics Canada, many Canadian health surveys including National Longitudinal Survey of Children and Youth and the Canadian Community Health Survey.

Rationale Obesity is defined as having excess body fat [18]. A BMI equal to or greater than 30.0 for males and 28.6 for females is considered to be obese or overweight to the point of possible health risk. One of the primary concerns regarding childhood obesity is that obese children are at increased risk for becoming obese adults which predisposes them to Type 2 diabetes, high blood pressure, high blood cholesterol, heart disease, stroke, and orthopaedic problems [39 19 40].

Also, from a social and psychological perspective, obesity can lead to stigmatization, discrimination, harassment, and exclusion, all of which contribute to negative body image, low self-esteem and episodes of depression [18 39 40].

Average BMI has been increasing since the mid-1980s' [19]. Between 1981 and 1996, the prevalence of obesity tripled among Canadian children, from 5% to 16.6% among boys and from 5% to 14.6% among girls [39]. The two leading modifiable causes of obesity are sedentary lifestyles and poor nutrition [18 41].

The Canadian Fitness and Lifestyle Research Institute reported that in 2000, more than half of Canadian children aged 5-17 years were considered insufficiently active to derive for optimal growth and development benefits [41 18]. Similarly, in Nova Scotia, 52% of children were not physically active enough to achieve health benefits.

Availability CCHS - Annual; NLSCY - every two years.

Limitations CCHS data are restricted to those youth aged 20 and older. NLSCY captures the population of interest but the data are only available every other year.

6.11 Mental Well-Being

Definition 25-item scale measuring six aspects of psychological well-being including: self-esteem, balance, social involvement, sociability, self-control, and happiness.

Source Statistics Canada's Canadian Community Health Survey

Rationale U.S. Surgeon General defines mental health as a "state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity. Mental health is indispensable to personal well-being, family and interpersonal relationships and contribution to community or society" [42].

According to the World Health Organization, health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" [43]. The definition suggests that mental health is equally as important as physical health in determining overall health status.

The Canadian Institute of Child Health describes mental health as the "new morbidity" for children and youth [44]. Using data from several national and provincial surveys, the Institute found that children between the ages of 4 and 11 years had high rates of emotional and behavioural problems. For example, 24% of boys and 17%

of girls have one or more emotional or behavioural disorders. Furthermore, according to the parents of the children surveyed, 51% of boys and 35% of girls were unable to concentrate or sit still for long, and were considered restless or hyperactive. The prevalence of depressive disorder was also high in so much as 5% of boys and 12% of girls between the ages of 12 and 19 years had experienced at least one major depressive episode.

Other Canadian studies have also found mental health to be particularly poor among youth[45,49]. For example, data from the National Population Health Survey show that among children aged between 12 and 19 years, only 44% had high self-esteem, 18% had high mastery, 72% were happy/interested in life, whereas 7% were depressed, 40% had high distrees level, and 13% had some cognitive impairment[45].

Availability Every two years

Limitations Statistics Canada data are restricted to those youth aged 12 and older although future surveys will likely lower the age criteria.

6.12 Number of Women and Children Staying in Shelters

Definition Number of women and children receiving temporary shelter from the Transition House Association of Nova Scotia's for a given period of time.

Source Nova Scotia Department of Community Services

Rationale Transition houses and shelters provide temporary shelter, crisis counselling, transportation services, follow-up, housing referral and other services to abused women and children. Abuse, or family violence, includes physical abuse, mental and emotional abuse, intimidation, sexual abuse, neglect, and financial exploitation.

Children who have been abused or witnessed spousal abuse are at higher risk for a number of serious immediate and long term consequences (e.g., physical injury, fear, acute anxiety, psycho dynamic disorders, emotional/behavioural problems, delayed development, extreme passivity/withdrawal, self-destructive or suicidal behaviour, poor school performance etc) and are more likely to repeat the abusive cycle as adults[46,47].

Each year approximately 1,000 women and 850 children take up temporary shelter in the 10 transition houses operating in the province (Nova Scotia Department of Community Services). Other research has shown that nearly 80% of women staying in transition homes report that their children had been witnesses to at least one episode of family violence (Nova Scotia Department of Community Services).

Availability Annual.

Limitations Figures represent events and not persons.

7.0 Indicators to be Developed

While the indicators selected are not meant to be exhaustive in terms of covering children's developmental needs, they represent, in the opinion of the Healthy Child Development Committee, the best of what's currently available. In comparison to the requirements for Healthy Child Development established by the World Bank's conference on Early Child Development: Investing in the Future in Atlanta, Georgia in April, 1996, two important areas are not addressed in the selected indicators - nutrition and head start programs. Consequently, the Committee identified both areas as being indispensable to future reports meant to measure progress in Healthy Child Development.

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The Health of Nova Scotians
A Life Cycle Approach

Chapter 10
Biology & Genetic Endowment

1.0 Introduction

Biology is one of the most basic and fundamental determinants of health. Although other determinants may address disease and recovery rates, Biology and Genetic Endowment may predispose certain individuals towards ill health or disability. In these terms, Biology and Genetic Endowment stands alone in providing the inner mechanisms for disease, as opposed to the other determinants' more social character.

However, even genetic predisposition has its social elements. Marriage within smaller communities can often propagate inherited disorders. Sickle-cell anemia, while most often observed in the Black population, is also a risk to the Arab, Italian, Hispanic and Greek communities, as well as people from India[1]. Longevity, a more positive genetic trait, is also present in some communities in greater proportions than in others. It is in instances such as these that we become aware of the connections between community and biology. As we shall see, the impact of society on biology, and vice-versa, is not limited to such straightforward issues.

Science and medicine have recently made great strides in further understanding the role of genetics in human function. Research projects like the Human Genome Project in the United States have gained unprecedented insight into the structure, function and purpose of the human genetic code. It is breakthroughs like this that create the opportunity to repair the most basic structure of the individual through gene therapy. It is now possible to screen parents for recessive genetic disorders that may pose risks to potential offspring, or to repair or replace certain genetic traits before birth. While not yet a widespread practice, some medical ethicists have begun to point out the moral implications of prenatal manipulation of children by parents.

What if it were possible not only to screen for, but also eliminate certain disorders? This is not only possible, but is becoming more prevalent every day. As a result of the ability to turn off certain genetic triggers, groups who are already afflicted with certain genetic disorders have expressed concerns that their conditions will become more stigmatized and undesirable, and that their contributions to society will be less valued[2]. In addition, if the ability to turn off certain traits exists, how difficult would it be to switch on or enhance the genes that determine height, intelligence, athleticism, and so on? This strikes many as raising the specter of eugenics, and has caused concern amongst both the scientific and religious communities. Recently, the Human Fertilization and Embryology Authority in Britain recommended that new techniques that make it possible to select the sex of a child should only be used to avoid gender-linked disorders, such as hemophilia. While most methods of sex determination are not regulated, the Authority felt it necessary to make the recommendation so that the creation of new life does not become, "…just another consumer choice[3]." It is choices such as these, unthinkable even two decades ago, that raise questions that governments and the public must address.

Therefore, while Biology and Genetic Endowment is the most natural and non-social determinant of health, it is at the same time the most discussed and controversial. The next few years will determine how far the rights of parents extend in deciding the genetic makeup of their offspring. The potential elimination of some forms of disease will have to be balanced with the social implications for those already afflicted with these disorders. Of particular interest will be the question: is scientific knowledge enough, or will we accept that morals, ethics and legislation will have to evolve to keep pace with scientific progress?

2.0 Committee Membership

The following individuals served as members of the Biology and Genetic Endowment Committee either as volunteers or as representatives of their organizations:

- Mildred Noiles, Committee Chair, Provincial Health Council Member
- Mac Bennett, Provincial Health Council Member
- Catherine Randall, Chair of Provincial Health Council
- John Dow, Executive Director, Provincial Health Council
- Barry Gallant, Senior Manager, Resource and Program Development, Juvenile Diabetes Research Foundation
- Beth Rajnovich, Support Staff, Provincial Health Council
- David F. Mercer, Researcher/Analyst, Provincial Health Council

2.1 A Note on Committee Membership

Although the composition of the committee as listed above is less varied than for other reports, it must be noted that considerable efforts were expended by the Executive Director to secure outside participation for this project. Although several groups and individuals with relevant expertise were approached, negative and non-responses limited the selection of committee members. As development of the project continued, time constraints dictated that we proceed without attempting further outside participation, although draft versions of the report were submitted to outside experts for their input.

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix Three - Key Determinants of Health*) and it was through this initiative that the Biology and Genetic Endowment Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals *(See Appendix Four - Nova Scotia's Health Goals*). The Terms of Reference of the Biology and Genetic Endowment Committee are described in *Appendix Five - Terms of Reference for Biology and Genetic Endowment Committee.*

4.0 Framework for Developing Indicators

The Healthy Child Development Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review of the scientific literature and other national and provincial reports for health indicators related to healthy child development. Consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See Appendix Three - Criteria for Selection of Indicators);
3. Review of indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible biologic and genetic indicators that are currently available.

5.0 Definition of Biology and Genetic Endowment

The basic biology and organic make-up of the human body is a fundamental determinant of health.

Genetic endowment provides an inherited predisposition to a wide range of individual responses that affect health status. Although socio-economic and environmental factors are important determinants of overall health, in some circumstances genetic endowment appears to predispose certain individuals to particular diseases or health problems[4].

6.0 Recommended Indicators

6.1 Diabetes

Definition Number of diagnosed cases of Type I and Type II Diabetes for population age 12 and over

Sources Statistics Canada, Canadian Community Health Survey, *Health Indicators, Chronic Diseases: Diabetes*, 2001.

Diabetes Care Program of Nova Scotia, *Diabetes in Nova Scotia: A Ten-Year Perspective*, 2003.

Rationale Diabetes Mellitus affects 5% of the population of Nova Scotia age 20 and over, and 14% of the population age 65 and over[5]. This is above the Canadian average of 4.1% of the population and 12.7% of those over 65. Deaths in Nova Scotia due to diabetes rose from 132 in 1990 to 262 in 2000[6]. Different ethnic groups show different levels of risk from diabetes, with incidence rates being markedly higher in Aboriginal communities. In particular, nutritional deprivation prior to birth may predispose Aboriginal children to obesity and Type II diabetes[7].

Limitations Diabetes Care Nova Scotia data is limited to persons aged 20 years and older. Statistics Canada information is limited to persons 12 years and older. The statistics are not broken down into Types I and II diabetes. Figures quoted above are from Statistics Canada.

6.2 Depression

Definition Number and percentage of people age 15 and over meeting measured criteria for Major Depressive Disorder, including "at least one episode of 2 weeks or more with persistent depressed mood and loss of interest or pleasure in normal activities, accompanied by problems such as decreased energy, changes in sleep and appetite, impaired concentration, and feelings of guilt, hopelessness, or suicidal thoughts[8]."

Sources Statistics Canada, *Canadian Community Health Survey: Mental Health and Well-Being*, 2002.

Rationale Across Canada, approximately 8% of adults will experience major depression at one time in their lives[9]. In Nova Scotia in 2002, 31,519 individuals, or 4.2% of the population over 15 years of age who were surveyed were experiencing or had experienced major depressive disorder in the last 12 months. Of these, the majority were women, at 5.5%, with only 2.7% of men experiencing the disorder. Major depressive disorder, and related mood disorders such as bipolar disorder and dysthymic disorder (chronic depression) change the way an individual thinks and behaves, and can alter the way the body functions[10]. Mood disorders can have a major economic impact through health care costs associated with the disorders, as well as lost productivity at work[11].

Limitations Given that the statistics are survey-based, it is possible that errors could occur through voluntary under-reporting by survey respondents.

6.3 Cancer

Definition Rate of incidence per 100,000 population of all types of cancer

Sources Statistics Canada, *Canadian Cancer Registry*, 2002

Rationale An estimated 139,000 new cases of cancer and 67,400 deaths from cancer will occur in Canada in 2003[12]. Lung cancer is by far the leading cause of premature cancer deaths[13], with mortality rates for women across Canada continuing to increase. 2003 estimates indicate that Nova Scotia will lead the Atlantic Provinces with approximately 5,000 new cases. Incidence rates for males in Nova Scotia in 2003 are projected to reach 529 per 100,000 population. For females, Nova Scotia is projected to lead the country with 383 per 100,000, high above the Canadian average of 348 per 100,000. Age-standardized mortality rates for both men and women in Nova Scotia are the highest projected across Canada in 2003[14]. Statistics are reported to the Nova Scotia Cancer Registry, which works in collaboration with Statistics Canada and cancer agencies in the other provinces to compile the *Canadian Cancer Registry*.

Limitations None known.

6.4 Alzheimer's

Definition Number of deaths attributed to Alzheimer's disease

Sources Service Nova Scotia and Municipal Relations, *Vital Statistics Annual Report*, 2001

Rationale It has been said that for every case of Alzheimer's disease, two people suffer: the patient and the caregiver. 60% of the 300,000 people in Canada experiencing some type of dementia are suffering from Alzheimer's. Alzheimer's is the fourth or fifth most common cause of death among seniors after cancer, heart disease and stroke. Seniors diagnosed with Alzheimer's have mortality rates two and a half times greater than expected. Definite diagnosis of Alzheimer's can only be made at the time of autopsy through microscopic examination of brain tissue[15]. In Nova Scotia in 2001, organic dementias such as Alzheimer's were responsible for the deaths of 133 individuals out of a total of 7,890 deaths (1.68% of all deaths). Generally, the higher the percentage of population over 65, the higher the percentage of total deaths attributed to Alzheimer's.

Limitations Statistics available are limited to deaths for which Alzheimer's is the direct cause.

6.5 Substance Abuse

Definition Number and percentage of persons aged 15 and over meeting criteria for alcohol or illicit drug dependence in the 12 months prior to survey. . The classification is based on a set of questions, which examine aspects of alcohol or illicit drug tolerance, withdrawal, loss of control, and social or physical problems related to alcohol or illicit drug use in daily life.

Sources Statistics Canada, *Canadian Community Health Survey: Mental Health and Well-Being*, 2002

Nova Scotia Dept. of Health Addiction Services and Dalhousie University, *Nova Scotia Student Drug Use Survey,* 2002

Rationale According to the *Nova Scotia Student Drug Use Survey* (2002), the most commonly used substances among youth were alcohol, marijuana and tobacco, with a significant proportion reporting having used hallucinogens such as LSD[16]. The *Canadian Community Health Survey* reports that 11% of Nova Scotians surveyed over the age of 15 had either a dependence on alcohol, a dependence on illicit drugs, or both. Alcohol dependence remains the single highest category of substance abuse, with Nova Scotia and New Brunswick reporting the second highest levels of dependence at 7.9%, behind only Saskatchewan at 8.5%.

Limitations Given that the statistics are survey-based, it is possible that errors could occur through voluntary under- or over-reporting by survey respondents.

6.6 Programs and Services for Assisted Living

Definition Supports for persons aged 15 and over with disabilities

Sources Statistics Canada, *Participation and Activity Limitation Survey (PALS): Disability Supports in Canada*, 2001

Rationale In 2001, 152,210 adults in Nova Scotia were identified as having disabilities.

In the *Participation and Activity Limitation Survey* of aids and barriers for disabled adults, 95,180 Nova Scotians aged 15 and over reported needing assistance with everyday activities. Of these, 65,620 individuals reported receiving all the help they required. Only 17.7% of the respondents indicated that the assistance was provided by an organization or agency, with 63.5% receiving this assistance from family members living with them. 73,690 reported the need for aids and devices, with 43,700 having these requirements fully met. Assistive aids and devices include all specialized aids, devices or services that enable persons with disabilities to carry out their everyday activities, such as by making it easier for them to get around (wheelchair, hand or arm support) or by helping them to hear, see or speak (hearing aid, Braille reading materials, keyboard device for communicating)[17]. In 2001, 14,290 Nova Scotians reported receiving the Disability Tax Credit, however, 107,460 disabled adults had not attempted to receive this benefit[18].

Limitations Although informative and comprehensive in terms of the actual needs of disabled adults, more detailed information on the origins of the assistance would enable a more thorough examination of where gaps in services originate. The demographic figures provided by the Disabled Persons Commission in Nova Scotia in their 2000-2001 *Annual Report* date from 1991, and are inadequate for reporting purposes.

6.7 Age of Nova Scotians Over Time

Definition Number and percentage of people in a given age group, compared over time

Sources Statistics Canada, 2001 Census, *Age Groups and Sex for Population, for Canada, Provinces and Territories, 1921 to 2001 Censuses*

Rationale As medical care improves, the lifespan of the population has increased, and the proportion of citizens living beyond the age of 85 has risen. In 1921, persons over the age of 85 accounted for only 5.5% of Nova Scotians, while in 2001, they composed approximately 17% of the total population of the province. As expected, however, females continue to outlive males, with females rising from 59.4% of the population over 85 in 1921 to 70.5% in 2001. The numbers are comparable on the national level, with females comprising 54.4% of the population over 85 in 1921, and 69.8% of the same population in 2001.

Limitations None known.

6.8 Deaths Within First Year from Congenital Malformations

Definition Number and rate of deaths per 1,000 population occurring under 1 year of age as a result of congenital malformations

Sources Service Nova Scotia and Municipal Relations, *Vital Statistics Annual Report*, 2001

Rationale Medical science has improved the survival rate of infants affected by congenital malformations past the age of one year. From 1940-45, 87 infants below one year of age (7.5 per 1,000) were lost to congenital malformations. Deaths due to this cause remained fairly steady until the 1980's, when it began a steady decline. In 2001, the death rate reflects the advances in prenatal and perinatal care, with only 12 deaths (1.4 per 1,000) from congenital malformations.

Limitations None known.

6.9 Asthma

Definition Percentage of population aged 12 and over who have been diagnosed by a health professional as having asthma

Sources Statistics Canada, *Canadian Community Health Survey: Chronic Conditions*, 2001

Rationale Across Canada in 2001, 8.4% of the population of over 25.8 million surveyed suffered from asthma. 6.9% of Canadian males and 9.9% of Canadian females in this survey suffered from this chronic condition. During the same period in Nova Scotia, 7.5% of males and 10.7% of females surveyed had asthma, from a total survey sample of approximately 788,000. On a provincial level, Nova Scotia is second highest in the country for both male and female asthma rates. Only the Yukon Territory had a higher rate of asthma for females, at 13.8%, and Alberta stood slightly higher than Nova Scotia for males at 7.6%.

Limitations Given that the statistics are survey-based, it is possible that errors could occur through voluntary under- or over-reporting by survey respondents.

6.10 Heart Disease

Definition Number and rate of deaths per 100,000 population due to chronic ischaemic heart disease

Sources Statistics Canada, *Health Indicators: Deaths*, 1997

Service Nova Scotia and Municipal Relations, *Vital Statistics Annual Report*, 2001

Rationale In 2001, 11,350 males and 10,072 females in Canada died of chronic ischaemic heart disease, none below 20 years of age. The highest number of deaths occurred 90 years of age or above. Nova Scotia accounted for 724 of the total deaths, or approximately 3.4% of the national total. Cardiovascular mortality in Canada is being closely studied with the intent of creating a 'cardiovascular atlas' of Canada, establishing a relationship between health region characteristics and heart disease mortality rates. Results have shown significant regional variations in mortality both at the provincial and territorial level, and the health region level. Efforts to reduce heart disease mortality in Canada "require attention to both traditional risk factors (e.g., smoking) and broader determinants of health (e.g., unemployment rates)[19]."

Limitations None known.

6.11 Down Syndrome

Definition Number and rate of occurrence per 10,000 live births of Down Syndrome. Down Syndrome is the common designation for Trisomy 21, an error in cell division involving the 21st chromosome pair, which results in the production of an extra chromosome. Down Syndrome results in varying degrees of intellectual impairment[20].

Sources Health Canada, *Congenital Anomalies in Canada: A Perinatal Health Report*, 2002

Rationale Down Syndrome is one of the most common congenital anomalies, occurring in approximately 1 in 800 live births. Children with Down Syndrome are also at increased risk for other congenital malformations, such as congenital heart defects, gastrointestinal tract obstruction, hyperthyroidism, cataracts and conductive hearing deficits. In addition, the risk of leukemia for Down Syndrome children is 10 to 20 times greater than the general population[21]. Nova Scotia had the second highest prevalence rate of Down Syndrome births in 1999 at 20.1 per 10,000 live births, second only to the Yukon, with a prevalence rate of 24.7, and high above the national average of 14.

Limitations None known.

6.12 Arthritis/Rheumatism

Definition Population aged 12 and over who report that they have been diagnosed by a health professional as having arthritis or rheumatism

Sources Statistics Canada, *Canadian Community Health Survey: Chronic Conditions*, 2001

Rationale Arthritis is one of the most prevalent chronic health conditions in Canada and a major cause of morbidity, disability and health care utilization. Individuals with arthritis will often live with the disease for life. While arthritis is commonly perceived as a disease of the aged, in reality nearly 3 of 5 people who reported having arthritis/rheumatism in 2000 were younger than 65 years of age[22]. In 2001, 787,972 Nova Scotians were asked during the *Canadian Community Health Survey* whether they had been diagnosed with arthritis or rheumatism. Of these, 70,117 males and 103,325 females, or 22% of all Nova Scotians surveyed indicated they had. This is significantly above the national average of 15.2%.

Limitations Given that the statistics are survey-based, it is possible that errors could occur through voluntary under- or over-reporting by survey respondents.

7.0 Indicators To Be Developed

7.1 Community Integration

7.1.1 Education

Definition Number of disabled students in the Nova Scotia school system receiving additional specialized services, by type of service

Rationale According to the Nova Scotia Department of Education *Report of the Special Education Implementation Review Committee* (2001), approximately 21% of students in the Nova Scotia public schools system in 1999-2000 received support from resource teachers, speech language pathologists, school psychologists and teacher assistants[23]. In the same period, 9.3% of the budget for public schools, some $73,981,734 was expended to support students with special needs. A special service in this case refers to a list of direct and consultative services, which range from severe learning disability support to English as a second language. Such a sweeping definition may prove misleading. The numbers and types of programs available to learning disabled and physically challenged students, and statistics for use of these programs, should be examined in detail.

Results of a survey measuring perceived progress in creating inclusive schools showed mixed results. While 32% of parents or guardians of special needs children saw progress as 'good', only 18% of classroom teachers agreed, reporting their views on inclusiveness as predominantly 'mixed' (51%), as did school administrators (59%) and other education professionals (53%)[24]. A 1998 report on the perceptions of educators to Individual Program Plans (IPPs) for students with special needs found that only17.1% of 900 educators surveyed felt that the number of support personnel were adequate to address the student's needs, and only 21.1% felt the support personnel and technology existed to adequately implement the IPPs[25].

In light of the above, it is imperative that the Department of Education undertakes a research agenda that will adequately depict the process of integration of a range of special needs students in the province of Nova Scotia from both a system and an educator perspective. In order to adequately measure the effectiveness province-wide, it will be necessary to include information on the programs for, and enrollments of special needs students in private schools in addition to the students in the public system. It is only with such detailed information that we can determine whether we are preparing students with special needs to enter the mainstream of society with all the possible cognitive tools we can provide.

7.1.2 Employment

Definition Amount of federal and provincial expenditure on Employability Assistance for People with Disabilities (EAPD), with information on program usage and outcome measures

Rationale The Employability Assistance Program of the Department of Community Services in Nova Scotia provided career counseling and training for 3,400 persons with disabilities from 1999-2001[26]. Additional services were delivered by the Department of Education, through Rehabilitation Programs and Services, and the Department of Health, through Addictions Services.

Federal funding was provided by the Canada-Nova Scotia Employability Assistance for People with Disabilities (EAPD) Agreement. The greatest single contributor to these programs was the Department of Health, which expended $12,055,051 in 2000-2001, compared to a total federal contribution of $7,445,000 during the same period.

Figures for expenditures on these programs are provided for the reference period, however, program results such as the number of people participating in and completing programs are not available for Nova Scotia, Ontario or Alberta[27]. Without reference to the number of people attending and completing specific programs, it is next to impossible to determine whether these programs are effective.

Therefore, we recommend that all departments responsible for providing Employability Assistance Programs begin to collect statistical data on the individuals for whom the programs are tailored. Without evidence that the program expenditures are being channeled properly and having a beneficial effect on the target populations, the programs' existence will be questionable at best.

Endnotes

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Chapter 11
Health Services Available

1. Introduction

In any list of topics important to Nova Scotians, and to Canadians as a whole, the perceived state of the health care system is the single most pressing concern. Rising costs, increased waiting times and unforeseen events such as SARS and the West Nile virus have caused the individual provincial health systems to come under almost unprecedented scrutiny. We, as citizens, need to know that the system will be there for our loved ones, and us, should accidents or illness occur. More importantly, we need to know as citizens that the government has the commitment to public health necessary to enact legislation and take steps to enhance protection and prevention before accidents or illness can occur. As such, any examination of health services can also be interpreted as an examination of the level of commitment of a government to the health status of its citizens.

According to Health Canada's Division of Childhood and Adolescence, "Health Services include those services and supports provided by doctors, nurses, pharmacists, dentists and other health-care professionals that focus upon both the physical and mental health of children and, at times, their primary caregivers [1]" This is true throughout the life cycle. Outcome measures are important in measuring the efficacy of a health care system, but a more important measure in this era of social and fiscal responsibility is the degree to which the resources are provided to support prevention through the framework of population health. This report focuses primarily on the resources for maintaining and promoting health and preventing disease, as well as addressing indicators related to the restoration of health and function, and long-term health care needs.

Since the release of the Romanow Report, the latest in a series of major reports on the health care system, confidence in the health care system has been increasing. According to an Ekos Research Associates survey conducted in November 2003, 15 per cent of Canadians feel the health system is improving, compared to ten per cent a year ago. 44 per cent of Canadians reported they perceived the system as deteriorating, but it must be noted that this figure was a significantly higher 63 per cent in 2002[2]. While increased public confidence in the health care system is a hopeful sign, Canadians perceive that, despite the recommendations of Romanow and Kirby, and increased public pressure, governments across Canada are ignoring sage advice. The confidence of the public in the health care system is low, although a 2003 Pollara poll on health care in Canada demonstrated that 50% of Canadians living in the Atlantic region believed that access to timely, quality health care would improve or significantly improve in the next five years. Fewer poll respondents across Canada indicated that their confidence in the system was 'falling' compared to 2002. The poll included members of the public, doctors, nurses, pharmacists and managers in the field of health care[3].

Improving quality of life and enabling citizens to achieve an optimum state of well-being are the most important functions of any health care system. This report is intended to provide a 'snapshot' of some aspects of the system in Nova Scotia, to assess how well the system is serving the public. Through the work of dedicated individuals, and with a renewed focus on population health and prevention, the system can become the equitable, responsible resource that we as Nova Scotians deserve.

2.0 Committee Membership

The following individuals served as members of the Health Services Committee either as volunteers or as representatives of their organizations:

- Brenda Montgomery, Committee Chair, Provincial Health Council Member
- Walter Proctor, Provincial Health Council Member
- Catherine Randall, Chair of Provincial Health Council
- John Dow, Executive Director, Provincial Health Council
- Dr. David Zitner, Director of Medical Informatics, Dalhousie University
- George H. Doyle-Bedwell, Health Information Analyst, NS Department of Health
- Patricia Doyle-Bedwell, Director of Transition Year Program, Henson College, Dalhousie University; Policy Advisor to Chief and Council, Potlotek First Nation
- Jackie MacDonald, Librarian, Annapolis Valley Health/South Shore Health/South West Health
- Paula Poirier, Director, Emergency Health Services Provincial Programs
- Beth Rajnovich, Support Staff, Provincial Health Council
- David F. Mercer, Researcher/Analyst, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix Three - Key Determinants of Health*) and it was through this initiative that the Health Services Committee was formed. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals *(See Appendix Four - Nova Scotia's Health Goals*). The Terms of Reference of the Health Services Committee are described in *Appendix Five - Terms of Reference for Health Services Committee.*

4.0 Definition of Health Services

Health services, particularly those designed to maintain and promote health, to prevent disease and to restore health and function, contribute to population health. The health services continuum of care includes treatment and secondary prevention[4].

6.0 Recommended Indicators

6.1 Use of Health Care Services

6.1.1 Use of Primary Care Services in Rural Areas

Definition	Number and proportion of individuals in rural areas who had contact with medical doctors in the last 12 months.
Sources	Nova Scotia Department of Health, *Nova Scotia Health Human Resources Study: Occupation Summaries, Profiles and Issues,* 2003 Statistics Canada, *Health Services Access Survey,* 2001 Statistics Canada, *Contact with medical doctors, by sex, household population aged 12 and over, Canada, provinces, territories and health regions*, 2000/01
Rationale	A report issued in October 2003 by Statistics Canada compared health indicators for both rural (a region with less than 2,500 inhabitants) and urban (2,500 inhabitants or more) regions. Rural areas across Canada, defined as those areas furthest from population centres, showed higher levels of health risk factors such as smoking and obesity, as well as arthritis/rheumatism and were less likely to rate their own health as 'excellent' than the national average[5]. Health regions in rural Atlantic Canada have the highest prevalence of diabetes in Canada[6]. These examples illustrate the realization that "Canadians living in rural and remote areas of Canada experience unique geographic challenges in maintaining their health and obtaining health care[7]." In Nova Scotia, demographic statistics indicate that 44.4% of the population lives in rural areas. There is a roughly equal urban-rural split among family and general practitioners (51% urban, 49% rural), but among specialists the division is more pronounced, with 75% of specialists practicing in urban areas and 25% in rural areas[8]. 88.3% of females and 76.5% of males in the province indicated that they had had contact with medical doctors within the past 12 months in 2000/01. During the 2001 *Health Services Access Survey,* 94.4% of Nova Scotians surveyed reported having a regular family physician.
Limitations	There is no indication of the reasons for which the individuals surveyed consulted medical doctors. Information on type, severity and/or duration of the illness requiring contact with medical doctors would be helpful. The *Health Services Access Survey* does not make a distinction between urban and rural populations, and in this instance measures use of health services, and not access, although it does measure perceived access in other categories.

6.1.2 Health Professionals

Definition Number of health professionals per 10,000 population

Sources Nova Scotia Department of Health, *Nova Scotia Health Human Resources Study: Occupation Summaries, Profiles and Issues,* 2003

Rationale Nova Scotia had a higher proportion of physicians than the national average in 2000, with 20.1 physicians for every 10,000 population, compared to 18.7 per 10,000 Canadians. This proportion is split evenly between those practicing family medicine and those classified as specialists, at approximately 10 per 10,000.The majority (61%)of family or general practitioners are male, and the only category of specialty in which females have a slight majority is in paediatrics (51%). The ratio of registered nurses to 10,000 population was 93.2 in 2001, considerably higher than the Canadian 75.0 per 10,000. Fully one-third of the total number of nurses was employed in a hospital setting in 2002. Nova Scotia remained above average in many health professions in 2000, but remained below average in such professions as dentistry, with 4.76 per 10,000 compared to 5.60 nationally, and optometrists, at .74 per 10,000 compared to 1.11 across Canada.

Limitations Some of the services provided by health care professionals, such as family doctors, are insured services, while others, such as adult dental health services, are non-insured. The distinction between the two types of services can lead to differences in patterns of access, such as imposing limitations on access to dental or optometric services to adults lacking private health insurance. All possible health professions were not examined in the study by the Nova Scotia Department of Health.

6.1.3 Visits to Family or General Practitioners

Definition Number of services performed by family physicians and general practitioners in a given year

Sources Nova Scotia Department of Health, Physicians' Services Division 2002/03

Rationale 4,213,677 services were provided by family physicians and general practitioners in an office setting during the fiscal year 2002/03. This represents 82.7% of the total number of services (5,097,887) provided during this period. 14.8% of services were provided in a hospital setting, 1.7% in nursing homes, 0.7% during patient home visits and 0.11% during visits to patients in home care. The remaining services were performed in correctional facilities or were unclassified.

Limitations None known.

6.2 Immunization

Definition Percentage of population age 65 and over who have been immunized for influenza

Sources Statistics Canada, Canadian Community Health Survey, *Influenza immunization, by age group and sex, household population aged 12 and over, Canada, provinces, territories and selected health regions*, 2000

Rationale Influenza vaccine is recommended for seniors over the age of 65, and for other high-risk groups, such as those with compromised immune systems[9]. In 2000, 63% of persons aged 65 and over in Canada reported having an influenza immunization less than 1 year ago. This includes 59.4% of individuals aged 65-74, and 68.4% of those 75 and over. In Nova Scotia, 60.9% of persons aged 65-74, and 70.5% of persons over 75 were immunized. Nova Scotia has the highest immunization rate for influenza in seniors in the Atlantic Provinces. During the period of August 27 to December 30, 2000, there were no positive influenza tests in Nova Scotia.

Limitations None known.

6.3 Unmet Health Care Needs

Definition Number and percentage of population reporting unmet health care needs

Sources Statistics Canada, Canadian Community Health Survey, *Unmet health care needs, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups*, 2000/01

Rationale The *Statistical Report on the Health of Canadians* stated in 1999 that, "Given the nature of the ongoing and widespread efforts to reform the health care system, it is to be expected that some health care needs will not be met as quickly as they have been in the past[10]." This is still true today, but it must be acknowledged that since there is no accepted definition of 'care needed', the range of possible needs may be quite extensive[11]. In Nova Scotia in 2000/01, 12.1% of males and 15.2% of females age 12 and over reported having unmet health care needs. These are above the national averages for Canada, which stand at 10.8% for males and 14.1% for females.

Limitations None known.

6.4 Unmet Mental Health Care Needs

Definition Number and percentage of individuals aged 15 and over who report unmet mental health care needs

Sources Statistics Canada, Canadian Community Health Survey, *Unmet health care needs associated with mental health problems, by sex, household population aged 15 and over, Canada and provinces*, 2002

Rationale In 2002, 5.1% of Nova Scotians reported having mental health care needs that went unmet, compared to the national average of 4.5%. According to Health Canada's *Report on Mental Illnesses in Canada,* "approximately 20% of individuals in Canada will experience a mental illness during their lifetime, and the remaining 80% will be affected by an illness in family members, friends or colleagues[12]." Mental illnesses are "characterized by alterations in thinking, mood and behaviour (or some combination thereof) associated with significant distress and impaired functioning[13]", and are associated with significant costs to the health care system, the family and the community. The stigma that persists in relation to mental illnesses presents serious barriers to acceptance in the community, as well as diagnosis and treatment of mental disorders[14]. In 2000/01, approximately 7.9% of Nova Scotians consulted health professionals about mental health related problems, which is below the national average of 8.2%. 10.1% of females reported contact with health professionals for mental health reasons, compared to only 5.5% of males[15]. In 2002, 3.6% of males and 6.5% of females in Nova Scotia reported having unmet health care needs associated with mental health problems. This is the highest percentage of females reporting unmet mental health care needs in Canada, above the 4.5% national average.

Limitations None known.

6.5 Teen Sexual Health

Definition Number of teens with access to sexual health counselling

Sources Nova Scotia Department of Health, *Just Loosen Up and Start Talking! The Nova Scotia Sexual Needs and Resources Assessment*, revised 2002

Rationale Adolescence is a turbulent time in people's lives, and is the time during which teens become acutely aware of their sexuality[16]. It is important during this period to provide resources and education to help ensure the smooth transition into sexual maturity while helping to decrease the probability of negative health outcomes. Nova Scotian youth were offered the opportunity to help shape sexual health education in the province, by reporting their experiences and expressing their needs in an honest and open way. 79% of the 220 surveyed reported they were sexually active, and 60% reported having experienced sexual intercourse by age 16. 33% of the youth surveyed reported having a forced sexual experience, and only 25% reported having found helpful assistance in the aftermath of these experiences. Fully one-third of the youth surveyed felt that they could not access sexual health services and education in their home community. Even when these resources are present, 43% said they do not access them due to fear, shame and embarrassment[17].

Limitations The data that is accessible is survey-based, and therefore does not constitute an exhaustive examination of the resources available, but are intended to represent the opinions of youth regarding these resources. Outcome measures of teen sexual health counselling would be extremely useful in establishing a less subjective view of sexual health counselling.

6.6 Ground Ambulance Response Times

Definition Number and percentage of ground ambulance response times at or above required standards.

Sources Fitch and Associates, *Consultant Report: Performance Evaluation of Nova Scotia Emergency Health Services*, November 2001

NS Department of Health Emergency Health Services, *Emergency Health Services Annual Report*, 2003

Rationale In 2001, the Nova Scotia Department of Health commissioned Fitch and Associates, an American firm, to evaluate ground ambulance services in the province, which stated, "One of the key measurements of performance in any emergency health system is the response time of its ground ambulances[18]." In the first quarter of 2001, 85.63% of ground ambulance response times fell within the required guidelines of 9 minutes or less for the most urgent emergency cases in areas where the population exceeds 15,000 people. 68.22% of the response times were less than 7 minutes. In areas with fewer than 2,500 people, 81.6% of response times were below the minimum requirement of 20 minutes, and 52.12% of all responses were below 12 minutes. In all categories response times were better than established standards, meaning paramedics often arrived at the scene in less than half the required time. There is strong evidence that shorter response times improve patient survival rates in cases of trauma and out-of-hospital cardiac arrest. The 2002/03 *Annual Report* from Emergency Health Services reports that "Breathing Problems", Falls/Back Injuries" and "Sick Person" calls were the most common for which ambulances were called in 2002/03[19]. It is important to note that this indicator is limited to measuring the response times of ground ambulances only, and are not intended to address the quality and timeliness of care upon arrival at hospital (See Section 6.0).

Limitations	None known.

6.7 Legislated Preventive Measures

Definition	Percentage of people who obey existing safety oriented legislation, e.g. seatbelt and helmet use
Sources	Canada Safety Council, *Helmets: Attitudes and Actions, Survey Findings*, 2002 Transport Canada, *Results of Transport Canada's July 2001 Survey of Seat Belt Use in Canada*, October 2001 Transport Canada, *Results of Transport Canada's September 2002 Survey of Seat Belt Use in Rural Areas of the Country*, May 2003
Rationale	Governments have enacted safety measures through legislation and bylaws that are intended to protect the public and prevent injury. In a 2001 survey, 90% of Nova Scotians driving passenger cars, 86.1% of passenger van drivers and 74% of light truck drivers reported wearing seat belts. All of these figures fall below the national average. In rural areas, however, Nova Scotia exceeds the 85% national average for front-seat seat belt compliance at 90.5%. While bicycling, Atlantic Canadians are second highest across Canada in self-reported helmet use at 56%. Approximately eight in ten children in the Atlantic Provinces (82%) always wear helmets while using a scooter or while in-line skating, and nearly nine in ten (89%) always wear helmets when skateboarding[20].
Limitations	The helmet survey, conducted by the Canada Safety Council in conjunction with Liberty Mutual, does not specify figures for Nova Scotia, but for the Atlantic Provinces collectively. Given that the statistics are survey-based, it is possible that errors could occur through voluntary under-or over-reporting by survey respondents.

6.8 Home Care

Definition	Number and percentage of persons reporting the use of home care services in the last 12 months
Sources	Statistics Canada, Canadian Community Health Survey, *Home care utilization, by sex, household population aged 18 and over, selected provinces, territories and health regions*, 2000/01 Nova Scotia Department of Health, *Annual Statistical Report, Fiscal 2001-2002*

Rationale Home care provides support to individuals of all ages in their communities. It is intended to help people remain independent, and in addition to assist family, friends and others in the community with unpaid care. Home care services include home support, such as respite care, personal care and light housekeeping, home nursing care, such as dressing changes, and providing home oxygen services[21]. In 2000/01, 19,466, or 2.7% of Nova Scotians indicated that they had used home care in the last 12 months. Of these, 7,323 were males, and 12,143 were females.

Limitations Use of home oxygen services is the only facet of home care specifically reported in the 2001-2002 *Statistical Report*. Detailed resource allocation data for home care exists for 1996/97, but the data have not been updated since then.

7.0 Indicators to be Developed

7.1 Wait Times

Definition Average and median wait times (in weeks) for surgery, specialist consultations, diagnostic procedures, and admission to long-term care; average and median wait times (in hours) from presentation at an emergency room to time of assessment.

Rationale A recent study from the Fraser Institute has gained national attention for its focus on the contentious issue of wait times for various medical procedures[22]. Waiting time for all treatments has increased in Canada as a whole between 2001/02 and 2002/03, rising from an average of 9.2 weeks to 9.5 weeks. According to the Fraser Institute study, wait times for MRI in Nova Scotia has increased significantly, CT-scan waits have remained stable, and ultrasound wait times have decreased slightly. Wait times between referral by a general practitioner and appointments with specialists has nearly doubled, as has the wait between GP referral and treatment[23]. Unfortunately, the data from the Fraser Institute report is survey-based, and does not reflect the situation of all patients during the time periods indicated. The total Nova Scotian portion of the sample consisted of only 118 responses, which may represent too small a sample for accurate results. In addition, provincial variations in definitions of relevant aspects of wait times have led to issues of comparability, particularly a lack of standardization across jurisdictions. The Organization for Economic Cooperation and Development (OECD) has also produced policy comparisons between various countries on the subject of wait times[24]. The concern for wait times is being felt internationally, and not just here at home.

Media attention has recently been focused on a perceived crisis in Halifax emergency rooms, as well as instances where individuals wait inordinately long times for relief from pain and discomfort. With demographics clearly illustrating the aging of the population, access within a reasonable period of time to long-term care can only become more important. These issues have impacted on the perception of the health care system in Nova Scotia, and it is vital that the Department of Health measure wait times to accurately reflect the situation. There is an opportunity to lead the country in accurate, standardized and timely reporting of wait times. On one hand, the results would help to highlight the day-to-day difficulties faced by both medical professionals and patients, and on the other hand would assist in determining patterns of demand in order to better serve the citizens in the province who are in need of treatment. The last examination of wait times by the Department of Health in Nova Scotia was conducted for elective procedures in 1996[25].

While the Committee recognizes the fine work undertaken by the Department of Health in its *Report of the Provincial Wait Time Monitoring Project Steering Committee* in January 2004, it is urgently recommended that the Department of Health undertake detailed data collection as soon as possible on all aspects of wait times in Nova Scotia, including emergency care, surgery, specialist, diagnostic and continuing care services. While the approach that is currently proposed will eventually produce some of the answers the citizens of Nova Scotia demand, a more comprehensive data collection and reporting initiative will provide a much more complete picture on the state of the health care system.

7.2 Outcomes of Care

Definition Measures of improvement or decline in quality of life following particular interventions.

Rationale In 1993, The Federal/Provincial/Territorial Deputy Ministers of Health published *An Inventory of Quality Initiatives in Canada: Toward a National Strategy for Quality and Effectiveness in Health Care*, an initiative intended in part to outline requirements for a national strategy on quality health care. Part of the report indicated the need for outcome measures as a method of benchmarking quality in the system. Regrettably, little progress has been made in creating a pattern of meaningful measures of quality of life after certain procedures.

While readmission rates are often used as a measure of appropriate care, it can be argued that the ultimate goal of any procedure is to improve quality of life, meaning that the patient's views on how their quality of life has improved or declined would be the most meaningful measurement. Although this measure is qualitative, the most meaningful way to establish whether or not the system is providing appropriate, quality health care is to measure quality of life from the patient's own perspective. This will be a very important component of establishing whether the health care system is fulfilling its mandate. A concentration on deaths or readmissions does not tell the story in a meaningful way.

It is therefore recommended that the Government of Nova Scotia undertake to fulfill its commitment to outcome measures by developing ongoing data collection via questionnaire or interview after certain medical procedures, and reporting standards to determine whether the needs of the health care consumer are truly being met in an appropriate manner.

Endnotes

[1] Health Canada website, http://www.hc-sc.gc.ca/dca-dea/publications/healthy_dev_partb_9_e.html, accessed November 24, 2003

[2] EKOS Research Associates Ltd., *Romanow Tracking Poll*, November 2003

[3] Pollara Research, *Health Care in Canada Survey 2003: A National Survey of Health Care Providers, Managers and the Public*

[4] Health Canada website: http://www.hc-sc.gc.ca/hppb/phdd/determinants/determinants.html#socenviron, accessed September 17, 2003.

[5] Statistics Canada, "The Health of Rural Canadians: A Rural-Urban Comparison of Health Indicators", *Rural and Small Town Canada Analysis Bulletin,* Vol. 4, No.6, October 2003

[6] Atlantic Health Promotion Research Centre, *Painting the Landscape of Rural Nova Scotia: Rural Communities Impacting Policy Project,* October 2003

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[9] Health Canada/Statistics Canada, "Unmet Health Care Needs", *Statistical Report on the Health of Canadians,* 1999

[10] Health Canada/Statistics Canada, "Unmet Health Care Needs", *Statistical Report on the Health of Canadians,* 1999

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[12] Health Canada, *Report on Mental Illnesses in Canada*, October 2002

[13] Health Canada, *Report on Mental Illnesses in Canada*, October 2002

[14] Health Canada, *Report on Mental Illnesses in Canada*, October 2002

[15] Statistics Canada, *Contact with health professionals about mental health, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups*, 2000/01

[16] Maritime Centre of Excellence for Women's Health, Policy Discussion Series Paper No. 8, *Adolescent Sexual Health Services and Education: Options for Nova Scotia*, December 2000

[17] Nova Scotia Department of Health, *Just Loosen Up and Start Talking! The Nova Scotia Sexual Needs and Resources Assessment*, revised 2002

[18] Fitch and Associates, *Consultant Report: Performance Evaluation of Nova Scotia Emergency Health Services*, November 2001

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[20] Canada Safety Council, *Helmets: Attitudes and Actions, Survey Findings*, 2002

[21] Nova Scotia Department of Health, *Continuing Care Fact Sheet: Home Care,* June 2003

[22] Esmail, N, Walker, M, *Waiting Your Turn: Hospital Waiting Lists in Canada*, The Fraser Institute 2003

[23] Esmail, N, Walker, M, *Waiting Your Turn: Hospital Waiting Lists in Canada*, The Fraser Institute 2003

[24] Hurst, J, Siciliani, L, *Tackling Excessive Waiting Times for Elective Surgery: A Comparison of Policies in twelve OECD Countries,* OECD 2003

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Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 12
Gender

1.0 Introduction

Health Canada's Women's Health Strategy recognizes that, "... in questions of health, it matters whether you are a woman or a man". A person's gender does have an impact on that person's health. It is known that some health problems affect women more than men, for example, arthritis, osteoporosis, domestic violence and eating disorders. There are also some diseases where the symptoms manifest themselves differently in women than in men, for example heart attacks and HIV-AIDS. There are also the obvious conditions that affect only women such as pregnancy, menopause, childbirth, diseases of female reproductive organs etc. and there are conditions that affect only men, for example, prostate and testicular cancer. When one applies a broader conception of health beyond the disease model, using for example the broad determinants of health, it becomes clear that there are many gender specific aspects to health. [1 2]

When one considers social aspects of health for example, social support networks or social status there are differences between men and women. For example, more women than men live in lone parent families and more women than men live in situations where domestic violence threatens their health and well being. Women usually do at least twenty hours of unpaid work at home, in addition to the hours in the paid workforce. Women are also disproportionately affected by eating disorders. These types of situations have implications for both women's health and men's health and their families. [3]

There is widespread consensus that gender is a critical determinant of health and this needs to be given attention in health policy decision-making. For example, in the past women have been excluded from the benefits of participating in clinical trials for new drugs or treatments because it was felt that their normal hormonal cycle may be adversely affect the study results or the trials may interfere with childbearing. The drugs were intended to be used by both men and women but the trials were conducted without women. Health Canada now mandates that clinical trials must include both men and women participants. [4]

Policy makers, health care providers, men and women need to be aware and appropriately consider how the health needs of men and women are different. The determinants of health affect different people in different ways. It is for this reason that it is important to raise awareness regarding the impact of gender on health. [5]

1.1 Definitions

It is important in any discussion related to gender that we clearly define the terms. The Women's Health Strategy of Health Canada provides a good definition of the difference between gender and biological sex. They state,

> "Gender goes beyond biology. Babies are born girls or boys. That's biology. When parents dress girls in pink and boys in blue, that's gender. Other examples of "gender" include social roles, personality traits, attitudes, behaviors, values, and relative access to power and

> influence." [6]

In short, gender is a social construction that encompasses more than biological sex.

People who identify themselves as gay, lesbian, bisexual or transgendered (GLBT) face a unique set of health concerns. It is important to note that the demographics of the GLBT community are no different from the general population and many of their health issues are similar. The GLBT community is not homogeneous in composition and there is great diversity in cultural background, ethnic or racial identity, age, education, income, and place of residence. For this reason it is difficult to establish narrow definitions that capture the complexities of the human condition and furthermore, narrow definitions can serve to marginalize people. The Report entitled, "Lesbian, Gay, Bisexual, and Transgender Health: Findings and Concerns, (January 2000) states,

> "Lesbian, gay, and bisexual people are defined by their sexual orientation, a definition that is complex and variable. Throughout history and among cultures the definition of sexual orientation shifts and changes. While sexual orientation is not easily defined, a generally accepted definition is orientation toward people of the same gender in sexual behavior, affection or attraction, and/or self-identity as gay/lesbian or bisexual."

Because there is little information available in terms of data sources or statistics, the following is a narrative description of the health issues specific to the GLBT community.

1.2 Gay, Lesbian, Bisexual and Transgender Health Issues [7]

People who self-identify as being GLBT have unique health needs. It should be noted that much of the research in this area is incomplete because many people who are GLBT do not disclose their sexual orientation to health care providers or researchers. Because of the social stigma associated with being transgendered -- even in the GLBT community -- valid and reliable information on the health needs of this population is almost non-existent. There is also a growing body of literature examining the health issues affecting GLBT adolescents [8] and seniors[9]. Regarding health issues in GLBT adolescents the American Academy of Child and Adolescent Psychiatry notes that,

> "Gay and lesbian teens can become socially isolated, withdraw from activities and friends, have trouble concentrating, and develop low self-esteem. They may also develop depression. Parents and others need to be alert to these signs of distress because recent studies show that gay/lesbian youth account for a significant number of deaths by suicide in adolescence." [10]

In general, because GLBT people have historically been stigmatized and marginalized by society many face challenges in maintaining their health and well being. Significant progress has been made in recent years with overcoming institutionalized discrimination against people who identify themselves as GLBT.

Gay and Bisexual Men

Gay men face a higher rate of sexually transmitted diseases, including HIV-AIDS, gonorrhea, syphilis, hepatitis A, B, and C [11] and venereal warts, as well as an increased risk of exposure to enteric pathogens than their non-gay male counterparts. [12] The prevalence of alcohol and drug abuse in the gay community has been associated with higher rates of sexually transmitted diseases. High levels of tobacco usage among gay men may put them at increased risk for lung cancer, obstructive pulmonary disease, and heart disease. It is also believed that GLBT people are generally at greater risk for certain forms of cancer because they see their physician less often for preventative and diagnostic care. [13]

Recent surveys indicate that many lesbians and gay men do not disclose their sexual orientation to health care providers, usually out of fear of discrimination. Similar to the general population, barriers to care are significantly increased for gay and bisexual men who are low income, of color, older, or reside in a rural area. Fear of violence, the effects of social marginalization, estrangement from family and the effects of stress from being exposed to long term social stigmatization can have harmful effects on the health of gay men, including adolescents and the elderly. [14]

Lesbian and Bisexual Women [15]

Lesbian and bisexual women face similar challenges as gay men because of the social stigmatization and discrimination they experience. They often exist as an "invisible minority" when seeking health care services. Also similar to gay men, the fear of "coming out" may inhibit their seeking care or treatment for illnesses. It is often believed that lesbians share the same health problems as their non-lesbian counterparts but this is not always the case. Fear of accessing the system for routine preventative care and treatment may be a barrier to accessing appropriate preventative and acute care treatment and this may put their health at risk. Also, fear of disclosing sexual orientation may inhibit lesbians from accessing appropriate care.

In general lesbians have a low likelihood of infection from many of the sexually transmitted diseases and HIV-AIDS. There is however documentation that indicates that woman-to-woman transmission of bacterial vaginosis, trichomonas, herpes, genital warts, gonorrhea and chlamydia are not uncommon. [16]

Similar to the gay male community, high rates of alcohol and drug abuse in the lesbian community may contribute to health problems. High rates of tobacco usage may correspond with greater risk for diseases associated with tobacco consumption, for example lung cancer, chronic obstructive pulmonary disease, heart disease, and osteoporosis.

Lack of routine gynecological care, PAP smears, and delays in treating gynecological problems may put lesbian and bisexual women at a greater risk for cervical cancer, pelvic inflammatory disease, and cervical dysplasia. [17]

Transgender Population

The Report on "Lesbian, Gay, Bisexual, and Transgender Health: Findings and Concerns" states that, "...because of marginalization, stigmatization and isolation, the transgender population is one of the most misunderstood subcultures in our society." Furthermore it is difficult to gather information regarding the nature of health issues in this population. Similar to gay lesbian and bisexual people transgender people face problems related to discrimination and lack of acceptance. Transgendered people face additional difficulties when obtaining appropriate services where placement in institutions is segregated by sex for example, shelters, treatment centers and prisons. Since many transgendered people do not identify with the gay community, approaches considered appropriate for either men or women may not be suitable for transgendered people. Fear of rejection and ridicule keep many transgendered people from seeking medical and mental health care. [18]

A Brief Comment on Sources of Data

In preparing this report it became apparent that there are ample data sources regarding health indicators for men and women's health. Regarding the health of gay, lesbian, bisexual and transgender health issues there are no valid and reliable data sources available and this should be a significant concern for health care providers, policy makers and researchers.

Health problems in the GLBT community are worthy of consideration and researchers, policy-makers and members from the GLBT community need to establish a research agenda regarding indicators and data sources that can be used in health care planning. There is also a need to examine the detrimental effects of hate crimes, and suicide rates among the GLBT population. These issues are poorly understood, but remain an ongoing area of concern.

2.0 Membership

The following individuals served as members of the Gender Committee either as volunteers or as representatives of their organizations:

Walter Proctor	(Chair), Provincial Health Council Member
Yvonne Atwell	Policy Advisor, Atlantic Centre of Excellence for Women's Health
Cathy Crouse	Maritime Centre for Aging, Mount Saint Vincent University
John Dow	Executive Director, Provincial Health Council
Josephine Etowa	Professor, Department of Nursing, Dalhousie University
Vivian Farrell	Provincial Health Council Member
Bob Fougere	Coordinator, Nova Scotia Rainbow Action Project
Merek Jagielski	Volunteer Services Manager, Metropolitan Immigrant Settlement Association
Brenda Montgomery	Community Volunteer
Catherine Randall	Chair of Provincial Health Council
Wyatt White	Office of Aboriginal Affairs, Nova Scotia

David Mercer	Researcher/Analyst, Provincial Health Council
Victor Maddalena	Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix One - Key Determinants of Health*) and it was through this initiative that the Culture and Gender Committee was formed. It was determined that this Committee would address two determinants of health -- culture and gender -- because there was considerable overlap between the two issues. It was decided that two Final Reports would be prepared one for each determinant of health. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. The Terms of Reference of the Income and Social Status Committee are described in *Appendix Two - Terms of Reference Culture and Gender Committee.*

Specifically the objectives of the Culture and Gender Committee were to:

a) Develop and recommend 10-12 indicators related to Culture and Gender that could be incorporated into the Life Cycle Review process. The objective of the Life Cycle Review Process is to produce "user friendly" reports on the health of Nova Scotians using the broad determinants of health as a framework.

   The indicators (approx. 10 key indicators) identified by the Committee should be "user friendly" so they can be understood and interpreted by the public, the media and politicians. The purpose of identifying these indicators is to serve as an educational tool for communities interested in encouraging change in social and economic policy. Some indicators could have more than one measure, or statistic to describe the indicator.

b) Advise government on the benefits of developing public policy that promotes social justice, equality, and promotes the development of social capital. Social capital is defined as the level of interconnectedness of people with their community and is characterized by active citizen participation in public affairs, the goal of pursuing the public good (as opposed to pursuing individual goals), tolerance, trust and cooperation.[19] For example the government should be aware of the impact of social policy related to gender or cultural issues have on the health of the public, both positive and negative. It is recognized that healthy public policy can also be good for the economy and for the social well being of the public.

   In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive change to policies that impact on Culture and Gender.

4.0 Framework for Developing Indicators

The Culture and Gender Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

1. Review the scientific, academic, economic and social literature and other national and provincial reports for health indicators related to culture and gender. In addition there was consultation with experts in various fields;
2. Establish criteria for selecting indicators. (See *Appendix Three – Criteria for Selection of Indicators*);
3. Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
4. Complete fact sheets outlining the definition, source, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible indicators that are currently available.

6.0 Recommended Indicators

6.1 Specific Disease and Mortality Rates by Gender

Definition	The top ten diseases (incidence and prevalence) and causes of mortality by disease, Nova Scotia, M/F
Source	Nova Scotia Department of Health Canadian Institute for Health Information (CIHI)
Rationale	Nova Scotia, when compared to other provinces suffers from higher rates of certain diseases. Many diseases are preventable and others are amenable to health promotion and social policy initiatives to help reduce the incidence of disease and disability. Diseases and causes of mortality provide insight into opportunities for primary and secondary prevention initiatives. This data will also provide insight into public policy opportunities to influence disease and mortality incidence.
Limitations	Data are available for male/female are available for the general population but not for Gay, Lesbian, Bisexual and Transgender populations.

6.2 Income Status

Definition Income by source of revenue by age and gender.

Source Nova Scotia Department of Finance; Statistics Canada, Income Trends in Canada and User's Guide. This user's guide provides a detailed description of a new CD-ROM *Income Trends in Canada* (13F0022XCB). It also provides a glossary, a description of the major concepts as well as an overview of the data source, the Survey of Labour and Income Dynamics (SLID). *Income Trends in Canada* (1980-1998) contains 45 cross-classified income tables, covering the period 1980 to 1998. Most tables include estimates for Canada, the 10 provinces and 15 census metropolitan areas (CMAs). Major topics included in the tables are income distributions and inequality, earnings of men and women, income tax, government transfers, low income and sources of income.

Rationale There is evidence that a person's income is probably the single greatest determinant of their health. [20] [21] Throughout the life cycle there is a strong relationship between income levels and health. The relationship is a continuous but nonlinear gradient with large improvements in health associated with a rise in income at the lower levels of income and smaller health improvements in health associated with incremental increases at higher levels of income.[22] This is a particularly important indicator when examining the impact of income on children and people of different ages and gender. [23]

Limitations This measure is specifically intended to measure income and income support by source. This indicator does not provide information regarding unpaid employment that would encompass the labour provided by, for example homemakers, or unpaid caregivers in the home. Measuring income as a sole measure of the value of an individual has been criticized by some economists and social policy analysts as presenting only a partial view of the value of individual labour. This has been a criticism of some economists who believe that the value of individuals in society is based on a monetary measure.

6.3 Educational Attainment

Definition Refers to the highest grade or year of elementary or secondary (high) school attended, or to the highest year of university or college education completed. University education is considered to be a higher level of schooling than college education. Also, the attainment of a degree, certificate or diploma is considered to be at a higher level than years completed or attended without an educational qualification. (Statistics Canada: Census Definitions)

Source 1. Statistics Canada Level of Educational Attainment for the Age Group 25 to 64,

2001 Counts for Both Sexes, for Canada, Provinces and Territories - 20% Sample Data.
Source: http://www12.statcan.ca/english/census01/release/Index.cfm
2. Nova Scotia Department of Education, Annual Statistics

Rationale Education is one of the key determinants of health. There is a correlation between high levels of educational attainment and income, income security, self-esteem, levels of literacy and social connectedness. It is instructive to examine the levels of education by gender in various sectors of the economy.

Limitations No specific limitations. This data needs to be interpreted in connection with other indicators.

6.4 Hourly Wage Gap

Definition Wage differentials between men and women.

Source

1. Nova Scotia Department of Finance Female/Male Earnings Ratios (%), Full Year, Full-Time Workers by Age, Marital Status and Education, Nova Scotia, 1995–1999
2. Statistics Canada, *Income Trends in Canada. (See above)* Major topics included in the data tables are income distributions and inequality, earnings of men and women, income tax, government transfers, low income and sources of income.[24]
3. Federal Pay Equity Commission.

Rationale Income is a significant determinant of health. In general, low income is associated with poor health. Studies have demonstrated that the differential wage gap between men and women can not be explained by gender differences in observable characteristics such as experience, education and demographics. [25] Wage gaps between men and women and differential pay for similar work are inherently unjust and are amenable to social policy initiatives.

Limitations These data must be interpreted with caution.

6.5 Lone Parent Families (M/F)

Definition Statistics Canada defines a "Lone Parent" as a mother or a father, with no spouse or common-law partner present, living in a dwelling with one or more children.

Source 1. Statistics Canada, Census 2001.

2. Socio-Economic Series" The Housing and Socio-Economic Conditions of Lone-Parent Families: 1991 Census Profile
Source: http://www.cmhc-schl.gc.ca/publications/en/rh-pr/socio/socio031.pdf
3. Statistics Canada, Health Reports -- Autumn 1999, Vol. 11 No. 2. The Health of Lone Mothers

Rationale The number of lone-parent families has increased dramatically over the past decades. In 1995 there were 1.1 million lone parent families, a 60% increase since 1981. The association between poor health and low socioeconomic status is well known. It is also well known that people with low Socio-economic status (SES) have a greater risk of becoming lone parents. The health impact of being a lone parent is widespread and includes such negative effects as stress, low income, greater risks of social isolation, risks associated with low employment status and a range of issues related to mental health and well-being. Lone parent families headed by women also have a greater likelihood of living in substandard housing. [26]

Limitations This data must be interpreted with caution.

6.6 Employment Status

Definition Unemployment Rate The unemployment rate is defined as that proportion of the labour force who did not have a job during the reference period, for youth age 15-24 and for the total population age 15 and over.

Employment Rate: Full time employment as a percentage of the population by age and gender.

Participation Rates: Labour force as a percentage of population 15 years of age and over.

Part-time/Seasonal: Part-time or casual employment as a percentage of the population.

Self-Employment: Those who are self-employed.

Source 1. Nova Scotia Department of Finance.
2. Statistics Canada "Seasonal Employment" Cat. No. 71F0004XCB Historic Labour Force.
3. Statistics Canada, Cat. No. 71-001, Monthly Labour Force Statistics Release.
4. Statistics Canada, Self Employment, Catalogue No. 89F0133XIE.

Rationale Traditional presentation and analysis of employment statistics are generally done by means of the unemployment rate. While the unemployment rate is a traditional measure of the health of the economy, it also indicates the social and economic status of groups within society. However, the unemployment rate alone does not capture those individuals who have been unemployed for more than 12 months and those who are self-employed or independent entrepreneurs. The unemployment rate measures people age 18 to 64 looking for work. People not included in these figures include people under 18 and over age 65 looking for work, farmers, self-employed or whose Employment Insurance benefits expire.

It is generally understood that unemployment is detrimental to health – of individuals, their families, and their communities -- but the full picture of employment related issues could be more fully explored by presenting and comparing a variety of measures. Each of the five measures presented, unemployment rate, employment rate, participation rate, part-time seasonal employment and self-employment tells a different story.

There is a significant body of literature to support the view that meaningful, productive, gainful employment is a critical determinant of health. Loss of employment, lack of employment, under-employment, and even having too much employment (i.e. overwork) can be detrimental to an individual's health status. A lack of meaningful employment often means more than just a low income, but it can also lead to poor self-esteem and lower social status in a community. A lack of meaningful employment can also contribute to social and economic exclusion.

Standard presentation of unemployment statistics do not capture a complete picture of the status of self-employed workers, workers in resource based industries for example, farmers or fishers, those who are homemakers, those under the age of fifteen or those who are no longer looking for work. Furthermore, unemployment statistics, while seasonally adjusted, do not reflect the cycles of seasonal employment common in rural economies and resource and tourism based industries. Full time employment as a percentage of the population provides a different perspective on employment by showing the level of full-time employment among those who are in the work force.

Limitations There are good sources of data for gender analysis of income related statistics. These measures need to be interpreted with caution and should not be presented in isolation from the other measures that portray other dimensions of income and labour statistics.

6.7 Mental Health Status

Definition 1. Number of Outpatient Mental Health Visits
2. Proportion of the population who has positive mental health, based on self-

reported measures
3. Number of Admissions to Hospital for Mental Illness

Source 1. Mental Health Outpatient Information System, Department of Health
2. National Population Health Survey, Statistics Canada
3. Canadian Institute for Health Information (CIHI)
4. Canadian Community Health Survey - Mental Health and Well Being Source: http://stcwww.statcan.ca/english/sdds/5015.htm

Rationale Mental illness is common in Canadian society. Statistics show that one in every six Canadians will have a mental health problem at some point in their lives. Mental illnesses accounts for a large percentage of hospital stays every year and contributes to a loss of productivity in the workplace. Mental illness often affects the health and well being of families. While most people know someone that has been, or will be, affected by mental illness, yet most people know very little about the etiology and treatments for mental illness. Within the sub-populations of men, women and GLBT there are different patterns of mental illness and utilization of mental health services. The problem of mental illness is made worse by discrimination, social isolation, exclusion language barriers, and difficulties accessing the health system[27],[28]

Limitations No specific limitations. This data needs to be interpreted with caution.

6.8 Participation in Health Promotion Activities

Definition The following definition of health promotion is an abstracted version of the Ottawa Charter for Health Promotion: [29]

"Health Promotion is the process of enabling people to increase control over, and to improve their health. To reach a state of complete physical, mental and social well being an individual must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well being."

Source Selected indicators, Statistics Canada, Health Promotion Survey http://stcwww.statcan.ca/english/sdds/3828.htm#InfoSurvey

Rationale Participation in health promotion activities is considered a foundational dimension of promoting health and preventing illness. Literature indicates that there are gender differences in participation rates in health promotion activities.

Limitations Because the definition of health promotion is so broad, it may be useful to examine specific health promotion activities, for example, participation in well women's clinics, well men's clinics, breast cancer screening, prostate cancer screening, physical fitness activities etc. [30]

7.0 Indicators that Need to be Developed

7.1 Informal Caregiving / Family Caregiving

There is evidence that there are increasing numbers of people -- seniors, people with disabilities, people with brain injuries, or children with developmental disorders -- who are being cared for by family members in their own homes and in the community. There are several reasons for this phenomenon including funding reductions in social programming and a general lack of acknowledgement of the nature and scope of the problem. This situation has contributed to a lack of policy action. In the past ten years as a result of funding reductions to the health care system there has been an increasing trend towards day surgery and early discharge programs from hospitals. The bulk of post-hospital care, and chronic care falls upon the shoulders of family caregivers, predominately women. In addition, in Nova Scotia there is a lack of support services for people requiring long term and chronic care, and placements for disabled, or brain injured individuals.

There are no sources for valid and reliable statistics that measure the amount of care given in the home. Part of the problem is defining "care giving" and discerning what is normal family care giving responsibilities and what is above and beyond normal family duties. There is a need to develop accurate ways of defining, identifying and measuring the care given to family members in the home. There is also a need to develop a respite and palliative care strategy.

Statistics Canada has produced two reports that address different aspects of family caregiving.

1. National Survey of Giving, Volunteering and Participating, 1997 and 2000.
2. Elder care in Canada: Context, Content and Consequences. Cat. No. 89-570-XPE

There remain many unanswered questions and further study and data collection regarding the issues of family caregiving as it relates to employment and working conditions. There is a need to identify and collect data in Nova Scotia regarding the extent and impact of family caregiving on the health of individuals.

Because women are expected to assume the role of caregiver this can have a negative effect on their health. Women make up the majority of home care recipients, home care personnel and persons responsible for the care of the elderly.[31] Furthermore, the Status of Women for Canada in their examination of the changing nature of home care and its impact on the vulnerability of women found that,

> "Women family members were expected to supplement home care services without pay and at great personal expense in terms of their own health, incomes, benefits career development and pension accumulation, whereas men were not under as much pressure to do so".[32]

Family caregiving in the gay, lesbian, bisexual and transgendered population is an issue that also needs special consideration.

Endnotes

[11] Health Canada Women's Health Strategy http://www.hc-hc.gc.ca/english/women/womenstrat.htm#strategy

[2] Colman, R. (February 2000) Women's Health in Atlantic Canada: A Statistical Portrait, a Report Prepared for the Maritime Centre of Excellence on Women's Health. GPI Atlantic.

[3] Health Canada Women's Health Strategy http://www.hc-hc.gc.ca/english/women/womenstrat.htm#strategy

[4] Health Canada Women's Health Strategy http://www.hc-hc.gc.ca/english/women/womenstrat.htm#strategy

[5] Health Canada Women's Health Strategy http://www.hc-hc.gc.ca/english/women/womenstrat.htm#strategy

[6] http://www.canadian-health-network.ca/html/newnotable/mar1a_2002e.html

[7] Unless otherwise referenced the information in the following sections related to gay, lesbian bisexual and transgendered people is from a Report entitled, "Lesbian, Gay, Bisexual, and Transgender Health: Findings and Concerns, January, 2000, Conference Edition (work in progress) Gay and Lesbian Medical Association, and Columbia University Joseph L. Mailman School of Public Health Center for Lesbian, Gay, Bisexual, and Transgender Health." Source http://www.glbthealth.org/index4a.html

[8] http://www.siecus.org/pubs/fact/fact0013.html

[9] http://www.aoa.dhhs.gov/may2001/factsheets/LGBT.html

[10] http://www.aacap.org/publications/factsfam/63.htm

[11] http://www.health.org/features/lgbt/health.aspx

[12] http://www.cdc.gov/nchstp/dstd/Press_Releases/STDGay2000.htm

[13] http://www.health.org/features/lgbt/health.aspx

[14] Ibid

[15] Source http://www.glbthealth.org/index4a.html

[16] Source http://www.glbthealth.org/index4a.html

[17] Ibid.

[18] Source: http://www.glbthealth.org/index4a.html

[19] Veenstra, G. & Lomas, J. (June 1996). Home is Where the Governing Is: Social Capital and Regional Health Governance. McMaster University Centre for Health Economics and Policy Analysis. Working Paper C96-1.

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[21] Wilkinson, R.G. (1992). Income Distribution and Life Expectancy. British Medical Journal..

[22] Duncan, G.J. (1996). Income Dynamics and Health. International Journal of Health Services, 26(3), 419-444.

[23] Colman, R. (February 2000) Women's Health in Atlantic Canada: A Statistical Portrait, a Report Prepared for the Maritime Centre of Excellence on Women's Health. GPI Atlantic.

[24] http://www.statcan.ca/english/research/75F0002MIE/75F0002MIE01001.pdf

[25] Drolet, M. (June 2002). The "Who, What, When and Where" of Gender Pay Differentials. The Evolving Workplace Series, Cat. N. 71-584. Statistics Canada.

[26] Perez, C. & Beaudet, M.P. (Autumn 1999) The Health of Lone Mothers. Health Reports Vol. 11 No. 2, Statistics Canada, Cat. No. 82-003.

[27] Source: Canadian Mental Health Association

[28] http://www.cmha.ca/english/info_centre/mh_pamphlets /mh_pamphlet_04.htm

[29] World Health Organization, 1986. (www.who.dk/policy/ottawa.htm)

[30] Colman, R. (February 2000) Women's Health in Atlantic Canada: A Statistical Portrait, a Report Prepared for the Maritime Centre of Excellence on Women's Health. GPI Atlantic.

[31] Morris et al. (November 1999). The Changing Nature of Home Care and Its Impact on Women's Vulnerability to Poverty, Status of Women Canada Cat. No. SW21-42/1999E

[32] Morris et al. (November 1999). The Changing Nature of Home Care and Its Impact on Women's Vulnerability to Poverty, Status of Women Canada, Cat. No. SW21-42/1999E

Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 13
Culture

1.0 Introduction

This report will identify indicators that have been selected by the Committee that reflect specific aspects of culture and its role as a determinant of health. As a preamble to the indicators a brief discussion will be presented to recognize prominent cultural groups in Nova Scotian society, namely, Aboriginal, African Nova Scotian, and Immigrant populations. In addition to having been identified as having unique health needs their history and presence in Nova Scotia has helped to shape the province's identity and formed an integral part of its cultural fabric.

1.1 Definitions [1]

As with any endeavour it is worthwhile to standardize definitions to ensure common understandings of concepts. For the purpose of this Report the following definitions will be used.

"Culture is defined as the totality of ideas, beliefs, values, knowledge, norms, communication styles and way of life of a group of individuals who share certain ethnic, historical, linguistic, racial, religious and social background. Culture is a complex and dynamic organization of meaning, knowledge, artifacts and symbols that guide human behavior. It accounts for shared patterns of thoughts and action, and contributes to human, social and physical survival."

"Cultural Awareness is defined as the recognition that the basic ways of learning, behavior and ways of thinking and perceiving are culturally conditioned."

"Cultural Competence is defined as a set of congruent attitudes, behaviors, and policies that come together in an agency, system, or among professionals to work effectively in cross cultural situations." Cultural competence is particularly relevant when considering the interaction between and among ethic groups and the health care system.

"Cultural Diversity" refers to the existence of several cultures among a group of people."

"Ethnic Group" refers to "A community or groups of people who share a common language, culture, heritage, language, or religion. A group bound together by ties of cultural homogeneity, with a prevailing loyalty and adhesion to certain attitudes, beliefs, and customs. An individual's ethnicity is generally determined at birth and as such, all individuals may be said to belong to an ethnic group. The term is often confused with "minority" and is often applied to groups who possess minority status in the society"

1.2 Impact of Culture on Health

The determinants of health[2] affect all persons in a society, but some people because they belong to a particular group, social class, race, or cultural background may experience additional health risks. How they are affected is determined in part by the dominant cultural values of the society that in turn contribute to the creation or perpetuation of conditions that marginalize, stigmatize, or foster the loss or devaluation of language and culture and promote a lack of access to culturally appropriate health care and services. [3]

Traditional healing practices also will have an impact on the health of individuals who identify with another culture. It is important to recognize that not all cultures define, understand and measure health in similar ways to most Canadians. The health system's ability to remain culturally competent and sensitive to alternative cultural healing practices is an important dimension to health of people from other cultures.

In support of this view regarding the impact of cultural background on health the following evidence comes from the Second Report on the Health of Canadians.[4]

"Despite major improvements since 1979, infant mortality rates among First Nations people in 1994 were still twice as high as among the Canadian population as a whole and the prevalence of major chronic diseases, including diabetes, heart problems, cancer hypertension and arthritis/rheumatism, is significantly higher in Aboriginal communities and appears to be increasing.

In a comparison of ethnic groups, the highest rate of suicide occurred among the Inuit, at 70 per 100,000, compared with 29 per 100,000 for the Dene and 15 per 100,000 for all other ethnic groups, comprised primarily of non-Aboriginal persons (1999).

The 1996–97 National Longitudinal Survey of Children and Youth found that many immigrant and refugee children were doing better emotionally and academically than their Canadian born peers, even though far more of the former lived in low-income households. The study suggests that "poverty among the Canadian-born population may have a different meaning than it has for newly arrived immigrants. The immigrant context of hope for a brighter future lessens poverty's blows; the hopelessness of majority-culture poverty accentuates its potency."

1.3 Cultural diversity -- Current Status of Nova Scotia

Nova Scotia is a province that is made up of many cultures and the history of each culture has created a mosaic of different languages, values, and beliefs. Immigration of different peoples to Nova Scotia began in the 1600s and continues to this day. There have been different waves of immigration from many countries over the centuries. Visible Minorities (as per Census definitions) represent approximately 3.5% of Nova Scotia's population compared with 11.2% for Canada. Of the total visible minority population in Nova Scotia (31,320) more than 50% of this population (18,110) are self-identified as Black. The second largest visible self-identified minority population in Nova Scotia is Arab/West Asian (3,745).[5] The term "Visible Minority" refers to a specific designation, for example Aboriginal peoples do not refer to themselves as a Visible Minority. The same holds true for people who associate themselves with other distinctive populations.

Cultural diversity also includes those populations that, because of some unique characteristic, for example, historical placement, geography, physical characteristic or language in the province's history have a distinctive culture of their own, for example, the Acadian Community, the deaf community, the gay, lesbian, bisexual and transgender community and persons with disability.

1.4 Health Status of Distinctive Populations

1.4.1 Health Status of Aboriginal People In Nova Scotia

The Aboriginal population in Nova Scotia is comprised of people who identify with at least one Aboriginal group, namely, North American Indian, Metis or Inuit, and/or who reported being a Treaty Indian or a Registered Indian as defined by the Indian Act of Canada, and or who reported being a member of an Indian Band or First Nation. [6] The 2001 Census indicates that there were 17,010 people who identified themselves as Aboriginal in Nova Scotia. [7] In Nova Scotia the predominant Aboriginal group are the Mi'kmaq.

Many studies have been conducted that examine the health of Aboriginal populations and the findings clearly indicate that the Aboriginal population has a poorer health status than the non-Aboriginal population. Health problems in Aboriginal populations have been the subject of ongoing discussion and negotiations among the various Aboriginal groups and governments across Canada. In the document entitled "A Statistical Profile on the Health of First Nations in Canada" [8] the following highlights indicate the types of health issues in Aboriginal populations,"

1. "Life expectancy at birth has improved among the First Nations population. In 2000, it rose to 68.9 years for males and 76.6 years for females, an increase from 1980 of 13.1% and 12.6%, respectively.
2. Life expectancy for Inuit in Nunavut for 1999 has been estimated at 67.7 years for males and 70.2 years for females.
3. In 1999, the First Nations birth rate was 23.0 births per 1,000 population, two times the comparable rate for Canada. Over half (58%) of First Nations women who gave birth in 1999 were under 25 years of age. First Nation females aged 10 to 14 had an age-specific birth rate nine times that of the average rate for Canada for the same age group.
4. The 1999 First Nations infant mortality rate was 8.0 deaths per 1,000 live births, or 1.5 times higher than the Canadian infant mortality rate of 5.5. By contrast, the 1979 First Nations infant mortality rate was 27.6 deaths per 1,000 live births, a rate that has been steadily declining.
5. The First Nations and the Canadian populations had similar proportions of births with low birth weight in 1999; however, almost twice as many First Nations births were classified as high birth weight in the same year.
6. The mortality rate for First Nations in 1999 was 354.2 deaths per 100,000 population. The four leading causes of death were injury and poisoning, circulatory diseases, cancer and respiratory diseases. For each of the causes of death, the rate has decreased when compared with the 1991 to 1993 period, from 22.4% for cancer to 40.9% for respiratory diseases, such as pneumonia and bronchitis.
7. The mortality rate for First Nation males was 1.3 times higher than the rate for First Nation

females in 1999. The rate difference is largely attributable to higher rates among males for injury and poisoning (147 deaths per 100,000 among males and 68 among females) and to circulatory disease (98 deaths per 100,000 among males and 72 among females).

8. Age-specific death rates in 1999 were higher in First Nation males than females for almost all age groups. The largest difference between the sexes occurs in the 5-9 and 20-24 age groups.
9. The most common cause of death for First Nations people aged 1 to 44 was injury and poisoning. Among children under 10, deaths were primarily due to accidents. Suicide was the leading cause of death for youth and adults up to age 44. For First Nations aged 45 and older, circulatory diseases were the most common causes of death. These trends parallel the Canadian population as a whole. Motor vehicle collisions were a leading cause of death in all age groups.
10. With respect to suicide, all First Nation age groups up to age 65 are at increased risk, compared with the Canadian population. First Nation males are at higher risk than females. The greatest disparity with the Canadian rates is for females aged 15 to 24 and aged 25 to 39 (approximately eight and five times the Canadian rates, respectively).
11. In 1999, First Nation people experienced a disproportionate burden of many infectious diseases. These include pertussis (3 times higher), chlamydia (7 times higher), hepatitis A (5.3 times higher) and shigellosis (almost 20 times higher).
12. The proportion of Canada's total AIDS cases contracted by Aboriginal people climbed from 1.0% in 1990 to 7.2% in 2001.
13. Over that same period, the tuberculosis rate among First Nation people remained 8 to 10 times that seen in the Canadian population as a whole.
14. Dental decay rates for Aboriginal children in Ontario are two to five times higher than rates among non-Aboriginal children. They are far less likely to be decay-free.
15. Shelter is a significant issue among First Nation communities, as only 56.9 % of homes were considered adequate in 1999–00. Adequate shelter is defined as housing that is not in need of minor or major repairs or replacement.
16. In 1999–00, 41.4% of the First Nations communities (south of 60 latitude) reported that at least 90% of homes were connected to centralized water treatment plants. Similarly, 33.6 % of the First Nation communities had at least 90% of their homes connected to a community sewage disposal system."

1.4.2 Health Status of African Nova Scotians

The descendants of the early Black settlers in Nova Scotia also represent what is referred to as Canada's largest population of Indigenous Blacks. The 1996 Census indicates that the population of Nova Scotia was 899,970 and of those 18,110 (approximately 2%) were listed as "Black" and 31,320 (approximately 3.5%) were listed as "Visible Minorities".

There were three main waves of Black immigration to Nova Scotia beginning in the period immediately following the American War of Independence (1775-1783). These included the Free Loyalist Blacks who, during the War of Independence the American Blacks -- both slaves and free

Blacks -- were offered promises of "freedom, protection and resettlement" if they would agree to fight on behalf of the British.[9] Of the estimated 40,000-50,000 immigrants pledging allegiance to the British flag (90% of whom were White) approximately 30,000 settled in Nova Scotia, the remaining few choosing to settle in what are now New Brunswick, Ontario and Quebec.

In 1776 approximately 550 Maroons, deported from Jamaica, were settled on the lands previously occupied by the Black Loyalists in the Preston area. Their stay in Nova Scotia was short and only a very few remained in Nova Scotia. The majority of the Maroons immigrated to Sierra Leone in 1800.[10] The arrival of what are referred to as the "Refugee Blacks" (approximately 2000 had arrived by 1815) occurred during and immediately following the War of 1812. During this time the British again offered freedom and land to every American-owned slave who would run away from their American slave-masters and pledge allegiance to the British flag.[11] The three main waves of immigration ended in the early 1800s and since that time the immigration of Blacks to Nova Scotia has been limited to individuals or on a family basis. There is a distinction to be made between African Canadians who have recently immigrated to Nova Scotia and those that identify themselves as Indigenous Blacks.

While research in this area is limited, the Black population in Nova Scotia has been identified as having differential access to health services and preventive health services, and poorer health status when compared to the general population.[12] There is a significant body of research that highlights the differential health status between Blacks and Whites in the United States. While one cannot definitively generalize these results to the Canadian context, the population health literature on the health status of Blacks documents a strong relationship among poverty , racism and poor health status of minority populations.

However, while empirical research is very limited, a study conducted by Enang (2002) summarized the research that examines the health status of Blacks and identified a number of illnesses that affect Blacks disproportionately when compared to the White population. Enang's study identified the following health problems that exist among the Black population: Chronic diseases such as diabetes mellitus, cardiovascular diseases, cerebrovascular diseases, cancer, HIV/AIDS, lupus, sickle cell disorder and sarcoidosis are more prevalent in the Black population. Conditions of low socioeconomic status and the effects of social exclusion further exacerbate health problems in this cohort.[13] In addition Enang (2002) examined the numerous factors that contribute to the higher rates of illness and disease among the Black population. These include, location of health services (acute and preventive) and lack of transportation, language barriers, racism, under-representation of Blacks in the health care system, lack of knowledge by professionals, cultural insensitivity, limited research on Black health issues, lifestyle choices and poverty.

In addition there is a significant body of research that demonstrates a strong relationship among poor health status, low socioeconomic status and marginalized status of minority populations.

1.4.3 Health Status of Immigrants

Statistics Canada, because it is responsible for collecting statistics on various segments of the population, uses a very specific definition to define immigrants:

"Immigrants are those people who have or ever had landed-immigrant status, whether or not they are currently Canadian citizens. The immigrant population excludes non-permanent residents (such as foreign workers, students and refugee claimants) and children born in Canada to immigrant parents." [14]

"According to the 1996 Census, immigrants made up 17% of the population in Canada in 1996. Less than half (43%) of these immigrants arrived in this country in the period between 1981 and 1996. The immigrant population refers to the proportion of immigrants in a geographic area. Most major urban centres have a high proportion of the immigrant population and of recent immigrants. Mainly rural health regions have a low proportion of the immigrant population and of recent immigrants." [15] "As of May 15, 2001, 5.4 million people, or 18.4% of the total population, were born outside the country. This was the highest proportion since 1931, when foreign-born people made up 22.2% of the population." [16] Among the Atlantic Provinces Nova Scotia has the largest number of immigrants. (See Appendix One for a description of Immigration (Persons) by Province of Destination 1996-2000.)

It is worthwhile to briefly describe the issues surrounding the health of immigrants. While the perception may be that recent immigrants to Canada are in poor health and that they are high users of the Canadian health system, the evidence does not support this view. A review of the literature reveals that, in general, recent immigrants to Canada are in good and often superior health when compared to longer-term immigrants and native-born Canadians. [17] Furthermore, utilization of health services by immigrants was similar to that of non-immigrants. This "healthy immigrant effect" can be attributed to two processes:

> "A self-selection process that basically includes people who are able and motivated to move and excludes those who are sick, disabled and in institutions; and,
>
> An immigration process that selects the "best" immigrants on the basis of education, language ability and job skills -- characteristics that facilitate social and economic integration and go hand in hand with healthy lifestyles" [18]

It is interesting to note that the longer immigrants reside in Canada particularly those who have lived in Canada for more than 10 years, the more their health and health service utilization patterns resemble native-born Canadians. [19]

This process of "acculturation" -- the process of incorporating new values, attitudes and behaviors -- provides a way of understanding the relationship between initial immigration and the changes in health status following immigration. There is evidence to show that acculturation has both positive and negative side effects. [20]

It needs to be made clear that the health status of refugees is different from that of the general immigrant population. A refugee is defined as a person who,

> "...owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country..." [21]

A refugee's entrance to Canadian society is usually out of desperation and they are at an increased risk of experiencing health problems, in particular mental health problems. Studies have indicated that refugees require special care and protection upon entry to Canada particularly in the early stages of their resettlement. [22] "Among those with particular health care needs are newcomers to Canada, specifically those with a precarious immigration status such as asylum seekers, and those with a high-risk profile such as refugees arriving in Canada from conflict-laden areas. " [23]

There is a need to conduct further studies to determine the overall health status of immigrant children in Canada.

While the health of recent immigrants is generally as good as or better than native-born Canadians there are health issues that are unique to immigrants and are worthy of special consideration, particularly those related to economic well-being, language and communication, social inclusion, access to culturally appropriate health services and poverty. Similar to native-born Canadians the immigrant population is also affected by the determinants of health such as education, income and social status, employment and working conditions health behaviors and practices and social inclusion. This is particularly true for immigrant women and children.

Recent immigrants also face barriers to accessing care for example, fear of jeopardizing immigration applications by seeking care, language barriers, culturally inappropriate care, and difficulties navigating the health system because of lack of knowledge and language or cultural barriers. [24]

2.0 Membership

The following individuals served as members of the Culture and Gender Committee either as volunteers or as representatives of their organizations:

Walter Proctor	(Chair), Provincial Health Council Member
Yvonne Atwell	Policy Advisor, Atlantic Centre of Excellence for Women's Health
Cathy Crouse	The Nova Scotia Centre on Aging, Mount Saint Vincent University
John Dow	Executive Director, Provincial Health Council
Josephine Etowa	Professor, Department of Nursing, Dalhousie University
Vivian Farrell	Provincial Health Council Member

Bob Fougere	Coordinator, Nova Scotia Rainbow Action Project
Merek Jagielski	Volunteer Services Manager, Metropolitan Immigrant Settlement Association
Brenda Montgomery	Community Volunteer
Catherine Randall	Chair of Provincial Health Council
Wyatt White	Office of Aboriginal Affairs, Nova Scotia
David Mercer	Researcher/Analyst, Provincial Health Council
Victor Maddalena	Researcher, Provincial Health Council

3.0 Background and Mandate of the Committee

The Provincial Health Council began the process of developing indicators for each of the determinants of health (See *Appendix Two - Key Determinants of Health*) and it was through this initiative that the Culture and Gender Committee was formed. It was determined that this Committee would address two determinants of health -- culture and gender -- because there was considerable overlap. Two Final Reports will be prepared, one for Culture and one for Gender. The development of a set of indicators for each of the determinants of health will provide the public, decision-makers in government and public agencies with the means to measure progress on achieving Nova Scotia's Health Goals. The Terms of Reference of the Culture and Gender Committee are described in *Appendix Three - Terms of Reference Culture and Gender Committee.*

Specifically the mandate of the Culture and Gender Committee is to:

§ Develop and recommend 10-12 indicators related to culture and gender that could be incorporated into the Life Cycle Review process. The objective of the Life Cycle Review Process is to produce "user friendly" reports on the health of Nova Scotians, using the determinants of health as a framework.

The indicators (approx. 10 key indicators) identified by the Committee should be "user friendly" so they can be understood and interpreted by the public, the media and politicians. The purpose of identifying these indicators is to serve as an education tool for communities interested in encouraging change in social and economic policy. Some indicators could have more than one measure, or statistic to describe the indicator.

§ Advise government on the benefits of developing public policy that promotes social justice, equality, and promotes the development of social capital. Social capital is defined as the level of interconnectedness of people with their community and is characterized by active citizen participation in public affairs, the goal of pursuing the public good (as opposed to pursuing individual goals), tolerance, trust and cooperation. [25] For example the government should be aware of the impact of social policy related to gender or cultural issues have on the health of the public, both positive and negative. It is recognized that healthy public policy can also be good for the economy and for the social well-being of the public.

In summary, the Committee was mandated to provide the public and government with information through selected indicators to initiate constructive change to policies that impact on gender and culture.

4. 0 Framework for Developing Indicators

The Culture and Gender Committee adopted the following elements to identify appropriate indicators to recommend the selected indicators:

A) Review the scientific, academic, economic and social literature and other national and provincial reports for health indicators related to culture and gender. In addition there was consultation with experts in various fields;
B) Establish criteria for selecting indicators. (See *Appendix Four – Criteria for Selection of Indicators*);
C) Review indicators against pre-determined criteria and select indicators that are meaningful, valid and reliable;
D) Complete fact sheets outlining the definition, source, rationale, limitations, and availability of the data for each indicator.

It should be noted that the selection of indicators was based on the combined experience and best judgement of Committee members and in no way reflects the entire range of possible indicators that are currently available.

6.0 Recommended Indicators

6.1 Self-Identified Ethnicity, Cultural and Religious Background

Definition	Self-Identified Ethnic Origin and Immigrant Status
Source	Nova Scotia Department of Finance, Census 2001. [26]
Rationale	Census information is one of the only ways that we can know the demographic profile of Nova Scotia. Census questions as respondents to self-identify their predominant ethic origin (including multiple responses) and immigration status. Census information also tabulates religious affiliation. In this instance because of a lack of data sources related to "spirituality" the data related to religious affiliation is being used as a proxy measure.

Limitations No specific limitations

6.2 Self-Identified Health Status

Definition Self-identified health status as rated by the population age 12 and over. M/F.

Source National Population Health Survey, Statistics Canada
Selected studies on Immigrant Health Issues, Statistics Canada.

Rationale People's perceptions of their health provide a reasonably good proxy measure for overall health status. A person's self-rated health is often similar to results obtained through other measures of health status.

Limitations This data is available for Aboriginal and Immigrant populations, but not for other identified minority groups.

6.3 Specific Disease and Mortality Rates by Age/Ethnicity

Definition The top ten causes of death by disease, Nova Scotia, M/F

Source Nova Scotia Department of Health
Canadian Institute for Health Information (CIHI)

Rationale Nova Scotia, when compared to other provinces suffers from higher rates of certain diseases. Many diseases are preventable and others are amenable to health promotion initiatives to help reduce the incidence of disease and disability.

Limitations There are a very limited number of studies that examine disease rates within various minority populations. Data will be available for the general population but not for specific minority groups, with the exception of Aboriginal populations.

6.4 Number of Foreign Trained Health Professionals

Definition Number of foreign trained health care professionals by professional designation. M/F.

Source Specific Registries of designated health professional groups.

Rationale Health professionals are treating an increasingly diverse patient population. This indicator is attempting to demonstrate the lack of diversity in the health professional population. This indicator highlights the need to examine admission and recruitment policies in schools that train health professionals.

Limitations No specific limitation. This data needs to be interpreted with caution, foreign training does not necessarily indicate cultural competence. In addition there are a limited number of health professional groups that maintain detailed registries.

6.5 Participation in Physical Activity

Definition Proportion of the population age 12 and over who are physically active based on their responses to questions about the frequency, duration and intensity of their participation in leisure time physical activity.

Source National Population Health Survey

Rationale Researchers in the health and wellness fields have been encouraging physical activity for physical health benefits for many years. "However, 63% of Canadians are not active enough to gain health benefits, compared with 79% in 1981. In Nova Scotia 69% of the population is not active enough to gain health benefits. Increasing physical activity levels in Canada will not only improve the health and well-being of Canadians, but also have the potential to produce significant health-care savings.

More women (67%) than men (58%) are inactive.
Physical inactivity levels worsen as we move from west to east.
Physical inactivity increases with age.
Substantial inroads were made at reducing physical inactivity levels between 1981 and 1995, but improvements have stalled since then.

Physical activity has many health benefits. An adequate level of regular vigorous physical activity helps to prevent serious illnesses and chronic conditions including heart disease, obesity, high blood pressure, adult-onset diabetes, osteoporosis, and depression. For people of all ages physical activity can improve self-esteem, reduces stress and provides opportunities for relaxation and socialization. The proportion of the population that is physically active tells us how we are doing in promoting this healthy behavior." (Source: Health Canada.)

Limitations There is limited information regarding participation of minority populations in physical activity, with the exception of Aboriginal populations.

6.6 Mental Health Status

Definition 1. Number of Outpatient Mental Health Visits

2. Proportion of the population who has positive mental health, based on self-reported measures
3. Number of Admissions to Hospital for Mental Illness

Source 1. Mental Health Outpatient Information System, Department of Health
2. National Population Health Survey, Statistics Canada
3. Canadian Institute for Health Information (CIHI)

Rationale Statistics show that one in every six Canadians will have a mental health problem at some point in their lives. Mental illnesses account for a large percentage of physician visits and hospital stays every year. Yet, in spite of the fact that every Canadian knows someone that has been, or will be, affected by mental illness, few people know very much about it. Within minority populations the problem of mental illness is made worse by discrimination, language barriers, and difficulties accessing the health system.
(Source: Canadian Mental Health Association)[27]

Limitations No specific limitations.

6.7 Highest Level of Educational Attainment

Definition 1. Highest Level of Educational Attainment
2. High School Graduation Rate is the percentage of the number of high school students receiving a High School Graduation Diploma compared to the number of students in grade 9 three years earlier.

Source 1. Statistics Canada, 2001 Census Information.
2. Nova Scotia Department of Education, Annual Statistics
3. Black Learners Advisory Committee

Rationale The level of educational attainment in a population has a significant impact on the health of that population. Low education levels will affect an individual's ability to find gainful employment and there is a correlation between educational attainment and literacy levels. Education also affects a person's self-esteem and influences their ability to have control over their own, and their family's, destiny. Individuals (and entire populations) with higher education levels tend to be healthier. This is related in part to their ability to earn higher incomes, to take control over life decisions, to become more socially active and involved in civic life, and to experience less social isolation. The level of educational attainment reflects the overall quality of the home and community learning environments, as well as the quality of the education system.

Specifically, there is a correlation between high school completion and health status.

There is a strong correlation between a person's ability to complete high school and their ability to find and retain gainful employment, and graduation from high school increases the likelihood of proceeding to post-secondary education. While the correlation is not conclusive, there is a greater likelihood that individuals who complete high school have sufficient literacy skills that prepare them for activities of daily living in society. Individuals that do not complete high school often have lower literacy levels, have lower incomes, perform poorly in employment settings, and are less likely to proceed to post-secondary education.

It should be noted that within the immigrant population there is a high level of educational attainment. This is because one of the selection criteria for immigration to Canada is educational attainment.

Limitations No specific limitations. There is limited information regarding cultural background and educational attainment.

6.8 Income Status

Definition Income by source of Revenue by Age and Gender

Source Nova Scotia Department of Finance; Statistics Canada, Income Trends in Canada and User's Guide.

Rationale There is evidence that a person's income is probably the single greatest determinant of their health and the health of their family. [28] [29] Simply stated, it is likely that if you are wealthy you will have better health than if you are poor. Moreover, it has been shown that income inequality --the gap between the rich and the poor -- is a significant indicator of the relative health of populations. In countries where the income gap is narrow relative health is better than in countries where the gap between the rich is poor is more significant. Throughout the life cycle there is a strong relationship between income levels and health. The relationship is a continuous but nonlinear gradient with large improvements in health associated with a rise in income at the lower levels of income and smaller health improvements in health associated with incremental increases at higher levels of income.[30] This is a particularly important indicator when examining the impact of income on children and people of different ages and gender.

Limitations This measure is specifically intended to measure income and income support by source. This indicator does not provide information regarding unpaid employment that would encompass the labour provided by, for example homemakers, or unpaid caregivers in the home. Measuring income as a sole measure of the value of an individual has been criticized by some economists and social policy analysts as presenting only a partial view of the value of individual labour.

6.9 Employment Status

Definition Unemployment Rate The unemployment rate is defined as that proportion of the labor force who did not have a job during the reference period, for youth age 15-24 and for the total population age 15 and over.

Employment Rate: Full time employment as a percentage of the population by age and gender.

Participation Rates: Labour force as a percentage of population 15 years of age and over.

Part-time/Seasonal: Part-time or casual employment as a percentage of the population.

Self-Employment: Those who are self-employed.

Source

1. Nova Scotia Department of Finance,
2. Statistics Canada "Seasonal Employment" Cat. No. 71F0004XCB Historic Labour Force,
3. Statistics Canada, Cat. No. 71-001, Monthly Labour Force Statistics Release.
4. Statistics Canada, Self Employment, Catalogue No. 89F0133XIE.

Rationale Traditional presentation and analysis of employment statistics are generally done by means of the unemployment rate. While the unemployment rate is a traditional measure of the health of the economy, it also indicates the social and economic status of groups within society. However, the unemployment rate alone does not capture those individuals who have been unemployed for more than 12 months and those who are self-employed or independent entrepreneurs. The unemployment rate measures people age 18 to 64 looking for work. People not included in these figures include people under 18 and over age 65 looking for work, farmers, self-employed or whose Employment Insurance benefits expire.

It is generally understood that unemployment is detrimental to health – of individuals, their families, and their communities -- but the full picture of employment related issues could be more fully explored by presenting and comparing a variety of measures. Each of the four measures presented, unemployment rate, employment rate, participation rate, part-time seasonal employment and self-employment tells a different story.

There is a significant body of literature to support the view that meaningful, productive, gainful employment is a critical determinant of health. Loss of employment, lack of employment, under-employment, and even having too much employment (i.e. overwork) can be detrimental to an individual's health status. A lack of meaningful employment often means more than just a low income, but it can also lead to poor self-esteem and lower social status in a community. A lack of meaningful employment can also contribute to social and economic exclusion.

Standard presentation of unemployment statistics do not capture a complete picture of the status of self-employed workers, workers in resource based industries for example, farmers or fishers, those who are homemakers, those under the age of fifteen or those who are no longer looking for work. Furthermore, unemployment statistics, while seasonally adjusted, do not reflect the cycles of seasonal employment common in rural economies and resource and tourism based industries. Full time employment as a percentage of the population provides a different perspective on employment by showing the level of full-time employment among those who are in the work force.

Limitations There is limited data available on selected minority groups. There is data available on Aboriginal population. These measures need to be interpreted with caution and should not be presented in isolation from the other measures that portray other dimensions of income and labour statistics.

6.10 Substance Abuse

Definition Substance Abuse can include the misuse of alcohol, over the counter drugs, prescription drugs, street drugs and can also include gas sniffing, or the ingestion of other toxic or noxious substances.

Source
1. Nova Scotia Student Drug Use Survey
http://www.gov.ns.ca/health/downloads/2002_NSDrugHighlights.pdf
2. A Second Diagnostic on the Health of First Nations and Inuit People In Canada., Health Canada.
3. National Population Health Survey, Statistics Canada.
http://www.hc-sc.gc.ca/fnihb/cp/publications/second_diagnostic_fni.pdf

Rationale Alcohol and substance abuse is generally considered a major problem in many sectors, and across all age groups in Nova Scotian society. For minority populations the problem of substance abuse -- and related mental health issues --often go unnoticed. Within minority populations women, youth, and the poor are more prone to the ill effects of substance abuse. Data sources are limited and specific to certain populations. There are studies that have been conducted on Aboriginal populations related to substance abuse.

Limitations Data are limited for certain populations.

7.0 Indicators that Need to be Developed

7.1 Culturally Specific Research on Indicators Related to Health

In the production of this Report it became increasingly evident that specific studies and sources of data related to the health of minority -- or culturally specific -- populations in the Nova Scotian and Canadian context are limited. A review of the literature identified that there have been many health-related studies on the Aboriginal population and some studies on the health of recent immigrant and refugee populations.

For any of the indicators listed in this report there are limited data related to the health issues of minority populations of culturally specific groups. When data are available it is national in scope and not province specific.

The health needs of different cultural groups are diverse and government policy-makers and researchers have to develop culturally sensitive, thoughtful and inclusive approaches to identifying the health issues and solutions.

There is an urgent need to engage policy makers, academics and representatives from various cultural groups to decide upon and implement a research agenda that will shed new light on the health status of different cultures that make up a part of the fabric of Nova Scotia society.

Endnotes

[1] Unless noted otherwise the definitions in this section come from the Department of Public Health Sciences, University of Toronto. http://www.phs.utoronto.ca/cultural_competency/glossary_1.htm

[2] The Provincial Health Council has adopted the following as determinants of health: income and social status, social support networks, education, employment and working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender and culture.

[3] http://www.hc-sc.gc.ca/hppb/phdd/determinants/determinants.html#culture

[4] Federal, Provincial and Territorial Advisory Committee on Population Health (1999). Toward a Healthy Future: Second Report on the Health of Canadians. Cat. No. H39-468/1999E.

[5] 1996 Census Data. N.S. Department of Finance.

[6] Source: Statistics Canada.

[7] Source Statustics Canada, 2001 Census.

[8] A Statistical Profile on the Health of First Nations in Canada. http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/sppa/hia/publications/statistical_profile.htm#Highlights.

[9] Pachai, B. (1990). Beneath the Clouds of the Promised Land: The Survival of Nova Scotia's Blacks: Volume II: 1800-1989. Halifax: The Black Educators Association.

[10] Ibid.

[11] Ibid.

[12] Enang, J. (2002). Black Women's Health: Health Related Research Relevant to Black Nova Scotian's. In C. Amaratunga (Ed.) Race, Ethnicity and Women's Health. Halifax: Atlantic Centre of Excellence for Women's Health.

[13] Enang, J. (2002). Black Women's Health: Health Related Research Relevant to Black Nova Scotian's. In C. Amaratunga (Ed.) Race, Ethnicity and Women's Health. Halifax: Atlantic Centre of Excellence for Women's Health.

[14] Statistics Canada. http://www.statcan.ca/english/freepub/82-221-XIE/01002/high/region/himmigrant.htm

[15] Statistics Canada. http://www.statcan.ca/english/freepub/82-221-XIE/01002/high/region/himmigrant.htm

[16] http://www12.statcan.ca/english/census01/Products/Analytic/companion/etoimm/canada.cfm

[17] Hyman, I. (September 2001). Immigration and Health, Health Canada Working Paper 01-05, Cat. No. H13-5/01-5E.

[18] Ibid. p. 1.

[19] Chen, J., Ng, E. & Wilkins, R. (1996) Health expectancy by Immigrant Status. Health Reports, 8(3), 29-37.

[20] Zambrana, , R.E. , Scrimshaw, S.C.M., Collins, N. & Dunkel-Schetter, C. (1997). Prenatal Health Behaviors and Psychosocial Risk Factors in Pregnancy in Women of Mexican Origin: The Role of Acculturation. American Journal of Public Health, 87(6), 1022-1026.

[21] Source: The Office of the United Nations High Commissioner for Refugees http://www.unhcr.ch/cgi-bin/texis/vtx/home

[22] Hyman, I. (Sept. 2001) p. 13.

[23] Gagnon, A.J. (November 2002). Responsiveness of the Canadian Health Care System Towards Newcomers. Discussion Paper No. 40. Commission on the future of Health Care in Canada.

[24] Ibid.

[25] Veenstra, G. & Lomas, J. (June 1996). Home is Where the Governing Is: Social Capital and Regional Health Governance. McMaster University Centre for Health Economics and Policy Analysis. Working Paper C96-1.

[26] http://www12.statcan.ca/english/census01/products/standard/themes/Index.cfm?Temporal=2001&APAH=3&FREE=0

[27] http://www.cmha.ca/english/info_centre/mh_pamphlets /mh_pamphlet_04.htm

[28] Evans, R.G., Barer, M.L. & Marmor, T.R. (1994). Why Are Some People Healthy and Others Not? The Determinants of Health of Populations. New York: Aldine de Gruyter.

[29] Wilkinson, R.G. (1992). Income Distribution and Life Expectancy. British Medical Journal..

[30] Duncan, G.J. (1996). Income Dynamics and Health. International Journal of Health Services, 26(3), 419-444.

Provincial
Health Council

The Health of Nova Scotians
A Life Cycle Approach

Chapter 14
Appendices

APPENDIX 1
The Determinants of Health

1. Income and Social Status

Health status improves at each step up the income and social hierarchy. High income determines living conditions such as safe housing and ability to buy sufficient good food. The healthiest populations are those in societies which are prosperous and have an equitable distribution of wealth.

Why are higher income and social status associated with better health? If it were just a matter of the poorest and lowest status groups having poor health, the explanation could be things like poor living conditions. But the effect occurs all across the socio-economic spectrum. Considerable research indicates that the degree of control people have over life circumstances, especially stressful situations, and their discretion to act are the key influences. Higher income and status generally results in more control and discretion. And the biological pathways for how this could happen are becoming better understood. A number of recent studies show that limited options and poor coping skills for dealing with stress increase vulnerability to a range of diseases through pathways that involve the immune and hormonal systems.

2. Social Support Networks

Support from families, friends and communities is associated with better health. Such social support networks could be very important in helping people solve problems and deal with adversity, as well as in maintaining a sense of mastery and control over life circumstances.
The caring and respect that occurs in social relationships, and the resulting sense of satisfaction and well-being, seem to act as a buffer against health problems.

3. Education

Health status improves with level of education.

Education is closely tied to socioeconomic status, and effective education for children and lifelong learning for adults are key contributors to health and prosperity for individuals, and for the country. Education contributes to health and prosperity by equipping people with knowledge and skills for problem solving, and helps provide a sense of control and mastery over life circumstances. It increases opportunities for job and income security, and job satisfaction. And it improves people's ability to access and understand information to help keep them healthy.

4. Employment / Working Conditions

Unemployment, underemployment, stressful or unsafe work are associated with poorer health. People who have more control over their work circumstances and fewer stress related demands of the job are healthier and often live longer than those in more stressful or riskier work and activities.

5. Social Environments

The importance of social support also extends to the broader community. Civic vitality refers to the strength of social networks within a community, region, province or country. It is reflected in the institutions, organizations and informal giving practices that people create to share resources and build attachments with others.

The array of values and norms of a society influence in varying ways the health and well being of individuals and populations.
In addition, social stability, recognition of diversity, safety, good working relationships, and cohesive communities provide a supportive society that reduces or avoids many potential risks to good health.

A healthy lifestyle can be thought of as a broad description of people's behaviour in three inter-related dimensions: individuals; individuals within their social environments (eg. family, peers, community, workplace); the relation between individuals and their social enivronment. Interventions to improve health through lifestyle choices can use comprehensive approaches that address health as a social or community (ie. shared) issue.

Social or community responses can add resources to an individual's repertoire of strategies to cope with changes and foster health.

6. Physical Environments

The physical environment is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects, including cancer, birth defects, respiratory illness and gastrointestinal ailments.

In the built environment, factors related to housing, indoor air quality, and the design of communities and transportation systems can significantly influence our physical and psychological well-being.

7. Personal Health Practices and Coping Skills

Personal Health Practices and Coping Skills refer to those actions by which individuals can prevent diseases and promote self-care, cope with challenges, and develop self-reliance, solve problems and make choices that enhance health.

Definitions of lifestyle include not only individual choices, but also the influence of social, economic,and environmental factors on the decisions people make about their health. There is a growing recognition that personal life "choices" are greatly influenced by the socioeconomic environments in which people live, learn, work and play.

These influences impact lifestyle choice through at least five areas: personal life skills, stress, culture, social relationships and belonging, and a sense of control. Interventions that support the creation of suportive environments will enhance the capacity of individuals to make healthy lifestyle choices in a world where many choices are possible.

Through research in areas such as heart disease and disadvantaged childhood, there is more evidence that powerful biochemical and physiological pathways link the individual socio-economic experience to vascular conditions and other adverse health events.

However, there is a growing recognition that personal life "choices" are greatly influenced by the socioeconomic environments in which people live, learn, work and play. Through research in areas such as heart disease and disadvantaged childhood, there is more evidence that powerful biochemical and physiological pathways link the individual socio-economic experience to vascular conditions and other adverse health events.

8. Healthy Child Development

New evidence on the effects of early experiences on brain development, school readiness and health in later life has sparked a growing consensus about early child development as a powerful determinant of health in its own right. At the same time, we have been learning more about how all of the other determinants of health affect the physical, social, mental, emotional and spiritual development of children and youth. For example, a young person's development is greatly affected by his or her housing and neighbourhood, family income and level of parents' education, access to nutritious foods and physical recreation, genetic makeup and access to dental and medical care.

9. Biology and Genetic Endowment

The basic biology and organic make-up of the human body are a fundamental determinant of health.

Genetic endowment provides an inherited predisposition to a wide range of individual responses that affect health status. Although socio-economic and environmental factors are important determinants of overall health, in some circumstances genetic endowment appears to predispose certain individuals to particular diseases or health problems.

10. Health Services

Health services, particularly those designed to maintain and promote health, to prevent disease, and to restore health and function contribute to population health. The health services continuum of care includes treatment and secondary prevention

11. Gender

Gender refers to the array of society-determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis. "Gendered" norms influence the health system's practices and priorities. Many health issues are a function of gender-based social status or roles.

12. Culture

Some persons or groups may face additional health risks due to a socio-economic environment, which is largely determined by dominant cultural values that contribute to the perpetuation of conditions such as marginalisation, stigmatisation, loss or devaluation of language and culture and lack of access to culturally appropriate health care and services.

APPENDIX 2
Nova Scotia Health Goals

Nova Scotia's Health Goals
Provincial Health Council

1. Health Promotion: Promote and improve the health of all Nova Scotians. While continuing to provide quality health care, we will shift our emphasis to the promotion of health and the prevention of illness, disability, and premature death.

2. Healthy Environment: Make Nova Scotia a safe and healthy place to live. To be healthy, we need clean air, water, and soil, as well as safe place to live, work, and play. We will restore, protect, and develop our environments to support health.

3. Healthy Living: Support the efforts of individuals, families, and communities to lead healthy lives. We will support each other in our efforts to understand the factors that affect our health and take the responsibility for those we can control.

4. Management: Ensure that the resources needed to support health are managed wisely and fairly. Our taxes pay for the people, programs, equipment, and facilities that support health. These and other resources will be used in ways that are open, effective, efficient, and accountable.

5. Participation: Involve Nova Scotians in decisions affecting health. Opportunities and support must be provided for all of us to participate in making decisions about our health and the health care system. All decision-makers are accountable to the public for their actions.

6. Social Justice: Ensure that all Nova Scotians have the opportunity to achieve health. Poverty, unemployment, racism, illiteracy, violence, rural isolation, and other issues make it more difficult for some people to be as healthy as others. The policies we put in place must address these factors that affect our health.

APPENDIX 3
Terms of Reference

Income and Social Status Committee

Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy in the area of income and social status, in particular in the areas of:

A. Wealth and Income

B. Cost of Living

C. Taxation

In the development of these recommendations, the Committee must follow the core functions:

A. Increasing public awareness;

B. Inviting advice;

C. Issues review and research;

D. Providing advice.

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the Committee should consist of no more than 8 people, with at least two members from Council. The balance should comprise of people interested in the areas of income and social status in Nova Scotia.

Monthly reports to be made to the Provincial Health Council on Committee activities. Formal recommendations to Council should be submitted to Council prior to the meeting on which action is requested.

Social Support Networks Committee
Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy related to social support networks, in particular in the areas of:

- a. Civic participation
- b. Non-professional peer support
- c. Unpaid care giving
- d. Availability of child care services
- e. Recreation services
- f. Community resources
- g. Informal non-professional peer support

In the development of these recommendations, the Committee must follow the core functions:

- ° Increasing public awareness;
- ° Inviting advice;
- ° Issues review and research;
- ° Providing advice.

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the Committee should consist of no more than 8 people, with at least two members from Council. The balance should comprise of people interested in social support networks. Monthly reports are to be made to the Provincial Health Council on Committee activities. Formal recommendations to Council should be submitted to Council prior to the meeting on which action is requested.

Education Committee
Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise Government in the development of a Comprehensive Health Policy, on alternatives to be considered in the areas of:

a) Educational Programmes for Youth and Children

b) Choosing Healthy Life Styles

c) Literacy Programmes

d) Other Programmes related to Education

e) Breast Feeding

f) Breakfast Programmes

g) Lunch Programmes

h) Head Start Programmmes

i) Any other Programmes related to either Education or Healthy Child Development

In the development of these recommendations, the Committee / Focus Group must follow the Core Functions:

a) Increasing Public Awareness

b) Inviting Advice

c) Issues Review and Research

d) Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the Committee / Focus Group should consist of no more than fifteen people, with at least two members from Council. The balance should comprise people interested in Education and Healthy Child Development in Nova Scotia.

Monthly reports to be made to Council on Committee / Focus Group activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Employment & Working Conditions Committee
Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives considered in the areas of employment and working conditions. Specifically this includes,

A. Absenteeism
B. Job Satisfaction
C. Unpaid Work / Volunteerism
D. Workplace Hazards
E. Workplace Health
F. (Un-) Employment
G. Organizational Culture
H. Benefits of Employment
I. Diversity in the workplace

In the development of these recommendations, the Committee must follow the core functions:

- Increasing public awareness
- Inviting Advice
- Issues Review and Research
- Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership on the Committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in employment and working condition related issues in Nova Scotia.

Monthly reports are to be made to Council on the activities of the Committee. Formal recommendation to Council should be submitted to Council members prior to the meeting on which action is requested.

Social Environments Committee
Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives to be considered in the areas of:

A. Social Stability
B. Recognition of Diversity
C. Safety
D. Good Working Relationships
E. Cohesive Communities
F. Infrastructure
G. Correlation between Social Environment and Health Promotion/Prevention
H. Civic Vitality

In the development of these recommendations, the committee must follow the core functions:

Increasing Public Awareness
Inviting Advice
Issues Review and Research
Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in the social environments in Nova Scotia.

Monthly reports to be made to Council on committee activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Physical Environments Committee
Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives to considered in the areas of:

A) Industrial Sites
B) Harbor Cleanups
C) Water Supply
D) Sewage Disposal
E) Clean Air

In the development of these recommendations, the Committee must follow the core functions:

§ Increasing public awareness;
§ Inviting advice;
§ Issues review and research;
§ Providing advice.

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the Committee should consist of no more than 8 people, with at least two members from Council. The balance should comprise of people interested in the physical environment in Nova Scotia.

Monthly reports to be made to council on Committee activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Personal Health Practices & Coping Skills Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives to be considered in the areas of:

A. Personal life skills
B. Stress
C. Culture
D. Social relationships and belonging
E. Sense of control
F. Personal commitment/ownership
G. Availability of services – access and financial ability

In the development of these recommendations, the committee must follow the core functions:

Increasing Public Awareness
Inviting Advice
Issues Review and Research
Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in the personal health practices and coping skills of Nova Scotians.

Monthly reports to be made to Council on committee activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Healthy Child Development Committee
Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise Government in the development of a Comprehensive Health Policy, on alternatives to be considered in the areas of:

a) Educational Programmes for Youth and Children
b) Choosing Healthy Life Styles
c) Literacy Programmes
d) Other Programmes related to Education
e) Breast Feeding
f) Breakfast Programmes
g) Lunch Programmes
h) Head Start Programmmes
i) Any other Programmes related to either Education or Healthy Child Development

In the development of these recommendations, the Committee / Focus Group must follow the Core Functions:

a) Increasing Public Awareness
b) Inviting Advice
c) Issues Review and Research
d) Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the Committee / Focus Group should consist of no more than fifteen people, with at least two members from Council. The balance should comprise people interested in Education and Healthy Child Development in Nova Scotia.

Monthly reports to be made to Council on Committee / Focus Group activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Biology & Genetic Endowment Committee
Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives to be considered in the areas of:

A. disease of solely genetic origins

B. diseases that are a result of a combination of environmental, lifestyle, and biology and genetic origins

C. ethical, moral and legal issues

D. integration and services for individuals with genetic disorders

In the development of these recommendations, the committee must follow the core functions:

Increasing Public Awareness
Inviting Advice
Issues Review and Research
Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the committee should consist of no more than 8 people, with at least two members from Council. The balance should comprise of people interested in income and social status in Nova Scotia.

Monthly reports to be made to Council on committee activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Health Services Available Committee
Terms of Reference

To present recommendations to The Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives to be considered in the areas of:

A. maintain and promote health

B. prevent disease

C. restore health and function

In the development of these recommendations, the committee must follow the core functions:

Increasing Public Awareness

Inviting Advice

Issues Review and Research

Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership of the committee should consist of no more than 8 people, with at least two members from Council. The balance should comprise of people interested in income and social status in Nova Scotia.

Monthly reports to be made to Council on committee activities. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Gender Committee
Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives considered in the areas of Gender and Culture. Specifically this includes,

Culture	Overlap	Gender
Cultural Diversity		Women's Health
Predisposition to Disease		Men's Health
Racial Diversity		Transgender Health
Cultural Concepts of Health and Disease		
Cultural Healing Practices (Holistic and Medical)		
Age Dynamics		
Religious Diversity		
Linguistic Diversity		
Cultural Competency		
	Governance	
	Demographics	
	Lifestyle	
	Family Dynamics	

In the development of these recommendations, the Committee must follow the core functions:

- Increasing public awareness
- Inviting Advice
- Issues Review and Research
- Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership on the Committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in culture and gender issues in Nova Scotia.

Monthly reports are to be made to Council on the activities of the Committee. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Gender Committee
Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives considered in the areas of Gender and Culture. Specifically this includes,

Culture

Cultural Diversity
Predisposition to Disease
Racial Diversity
Cultural Concepts of Health and Disease
Cultural Healing Practices (Holistic and Medical)
Age Dynamics
Religious Diversity
Linguistic Diversity
Cultural Competency

Overlap

Governance
Demographics
Lifestyle
Family Dynamics

Gender

Women's Health
Men's Health
Transgender Health

In the development of these recommendations, the Committee must follow the core functions:

- Increasing public awareness
- Inviting Advice
- Issues Review and Research
- Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership on the Committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in culture and gender issues in Nova Scotia.

Monthly reports are to be made to Council on the activities of the Committee. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

Culture Committee

Terms of Reference

To present recommendations to the Provincial Health Council, which can be used to advise government in the development of a comprehensive health policy, on alternatives considered in the areas of Gender and Culture. Specifically this includes,

Culture	Overlap	Gender
Cultural Diversity		Women's Health
Predisposition to Disease		Men's Health
Racial Diversity		Transgender Health
Cultural Concepts of Health and Disease		
Cultural Healing Practices (Holistic and Medical)		
Age Dynamics		
Religious Diversity		
Linguistic Diversity		
Cultural Competency		
	Governance	
	Demographics	
	Lifestyle	
	Family Dynamics	

In the development of these recommendations, the Committee must follow the core functions:

- ☐ Increasing public awareness
- ☐ Inviting Advice
- ☐ Issues Review and Research
- ☐ Providing Advice

The recommendations should also include a method to monitor and evaluate each of the alternatives presented.

Membership on the Committee should consist of no more than 8 people, with at least two members from Council. The balance should be comprised of people interested in culture and gender issues in Nova Scotia.

Monthly reports are to be made to Council on the activities of the Committee. Formal recommendations to Council should be submitted to Council members prior to the meeting on which action is requested.

APPENDIX 4

Criteria for Selection of Indicators

Criteria for Selection of Indicators

The following criteria are considered essential when selecting indicators for inclusion. The indicator should be:

A. Related to the conditions, resources and strategies for health
B. Easily understood by the public for their relevance
C. Timely
D. Valid (the indicator should measure what it purports to measure)
E. Reliable (consistent) across institutions, geographic areas and time
F. Reasonably accessible
G. Inexpensive and simple to collect
H. Comparable to information collected in other provinces.

The following criteria are desirable, but not essential. The indicator should be:

A. Actionable (facilitating change)
B. Span the systems that support health
C. Address all life stages
D. Both objective and subjective

APPENDIX 5
Glossary of Terms

Glossary of Terms

Brain Drain

The long-term migration of highly skilled individuals from an area where they received considerable educational investment to another area for purposes of work.

Bullied

A person is being bullied when he or she is exposed, repeatedly and over time to negative actions on the part of one or more other persons (Olewus, 1993).

Cognitive Impairment

Stephens, Dulberg, & Joubert (1999) defined cognitive impairment as "unable to remember anything at all," "unable to think or solve problems" or "some difficulty thinking." The data come from the 1994/95 National Population Health Survey.

Cohort Method

A study which takes a select group of people (a cohort) as its subjects and follows-up with the entire group over time.

Congenital Anomalies

Structural defects present at birth.

Eugenics

Scientific theory popular in the late 19th and early 20th centuries that proposed improving the characteristics of races by selective breeding.

Infrastructure

The system of public works of a country, state, or region. Also refers to the resources (people, buildings, or equipment) required for an activity.

Ischaemic Heart Disease

A disease characterized by reduced blood flow to the heart due to narrowing of the coronary arteries. The most common cause of death in Western countries, it has been linked to obesity and smoking.

Knowledge-based Economy
Economies which are based on the production, distribution and use of knowledge and information (OECD, 1996).

Morbidity
A diseased condition or any departure from a state of physiological or psychological well-being.

Mortality
The incidence of death from a disease.

Psycho Dynamic Disorders
Repressed unconscious conflicts experienced in childhood.

Type I Diabetes
Also called insulin dependent diabetes or juvenile onset diabetes. In this type of diabetes, the pancreas is rendered incapable of producing insulin due to attacks from the body's own immune system. It is believed that this condition is partly inherited from the parents, although it is not fully understood.

Type II Diabetes
Also referred to as non-insulin dependent or adult-onset diabetes. In this type of diabetes, the pancreas produces insulin, but not in sufficient quantities. Although Type II diabetes occurs most frequently in adults over age 30, recently there have been an increasing number of cases diagnosed in the teen years. Although there is a genetic component to this type of diabetes, it has also been strongly linked to poor eating habits, excessive body weight and lack of exercise.